PAPER TRADE JOURNAL

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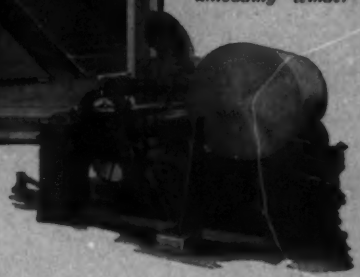
Lower view shows wet end of machine

View at left shows view from winder end

Lower view shows Beloit Automatic unloading winder



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You must know the properties of the pulps you buy. It is important to know the rate at which pulp strengths will develop under certain beating conditions.

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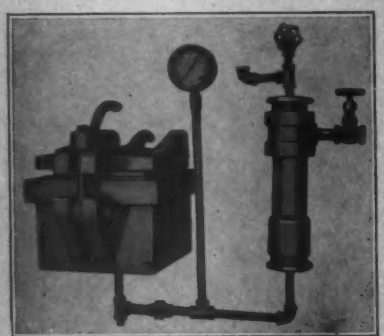
Appleton Laboratory Equipment will do all this and more. It will make possible and practicable the development of new papers. It will make possible a test for trouble at any point in the whole of your process of paper manufacturing.



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Appleton, Wisconsin

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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-SIXTH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President — F. K. HOPPIE, Secretary

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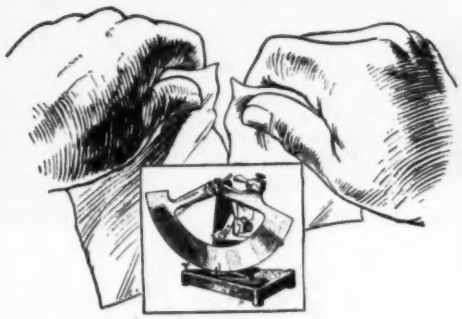

THE OLD WAY and THE NEW!

Illustrated above are two ways of testing paper. One way is old, the other way is new.

The old way, by tearing with the fingers, is vague, highly inaccurate and unreliable.

The new way, with the Elmendorf Tearing Tester, is definite, extremely accurate and absolutely reliable.

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A Vulcalock Couch Roll, 24¾" diameter, 147" long, 1¼" thickness of rubber. Density 300 (⅛" ball).

A New Product for the Paper Industry

Goodrich "Vulcalock" Couch Roll

THIS new construction is an innovation in paper-making equipment. It is built on an aluminum core, assuring uniform density and reduction of weight to one-third that of the ordinary roll with iron pipe core.

The rubber is attached directly to the aluminum base by the new Goodrich "Vulcalock" process, which actually "locks" the soft rubber to the metal surface without requiring an intermediate layer of hard rubber.

This new roll is especially adapted to cylinder machines making tissue, or to installations requiring a light-weight couch roll. Write for descriptive bulletin No. 9740.

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ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. LXXXVI, No. 21 — PAPER — Thursday, May 24, 1928

Conflicting News Print Situation in Canada

Amalgamation of Leading Selling Organizations Said To Be Operating to Advantage of Independent Companies—Further Mergers May Take Place With a View to Fairer Restriction of Output—Reorganization of St. Lawrence Paper Mills Successful —Price Bros. & Co. Have Very Successful Year

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 21, 1928.—Following the revelations over the Hearst contracts, there is no doubt that a very uneasy feeling prevails in the news print industry, and present indications are that the industry is far from improving its position, despite the fact that Canadian mills operated at a slightly higher capacity in April than in the preceding month.

The fact of the matter is that the amalgamation of the selling organizations of many of the leading mills in the Canadian Newsprint Company has been operating to the advantage of independent companies, for while the former have restricted their output the latter have not. Thus it is stated that the independent companies are operating at close to 85 per cent capacity while those which entered into the Canadian Newsprint Company are only operating at something better than 75 per cent capacity.

Two contradictory rumors now prevail One is that further amalgamations are in the offing, with a view to a more general, and therefore a fairer, restriction of output. The other is that certain companies are likely to withdraw from the Canadian Newsprint Company and enter the market on an independent basis. The trouble over the Hearst contracts is said to have precipitated matters, and to have caused much dissatisfaction. Although the Hearst contracts, giving that publisher news print at $5 per ton under the market price, are said to have been cancelled, with a resulting threat that European news print may be brought in, there is a feeling that Hearst will find the news print he needs in Canada at the price he is prepared to pay.

Three companies are specifically mentioned as likely to withdraw from the selling combine. They are: Price Brothers and Co., the Anglo-Canadian Pulp and Paper Mills and the Brompton Pulp and Paper Company.

As against this, the remarks of John H. Price, president of Price Brothers, at the annual meeting of the company during the week, are quoted as indicating the possibility of further mergers. Mr. Price said:

"With regard to the general position of the news print industry, we are still suffering from over-expansion. As I explained to you in my remarks last year, definite steps have been taken to improve the selling conditions and I feel sure that these have in some measure been successful.

"We are also experiencing the tendency of merging news print companies under a few financially strong groups and I feel that such action will go a long way towards stabilizing conditions and regulating supply and demand, not only as they exist today, but for the future."

St. Lawrence Paper Co.

The reorganization of the St Lawrence Paper Mills Co., Ltd., one of the large independent companies, is attracting much attention. The public offering of no par common shares has been heavily over-subscribed. The character of the offering is a most unusual one because it takes the form of partly paid allotment certificates which, however, cover fully paid shares as to date of original subscription and of the two additional payment calls to be made in due course.

Each allotment certificate provides for ultimate delivery of one share of 6 per cent cumulative preference stock, one share of no par value common stock and one subscription warrant entitling the holder to subscribe to a further one-half share of common stock at $40 per share, any time up to April 15, 1933. The subscription price is $128 per allotment certificate unit, payable $78 and accrued dividend on subscription, $25 on October 15, 1928, and a final $25 when called not later than January 1, 1930.

Price Bros. Annual Meeting

At the annual meeting of Price Bros. & Co., held in Quebec on May 15. John H. Price, the president, in reviewing the annual statement, said:

"I feel we are justified in considering the results of the past year's operations as satisfactory.

"The liquid position of your company has again been carefully protected.

"The allowance for depreciation of your company's properties and for depletion of your company's timber limits has been generously provided for.

"The physical condition of your company's properties has been well maintained out of revenue. All inventories have been carefully taken and conservatively valued.

"The construction work at the River Bend mill is proceeding satisfactorily and will be completed by January 1, 1929.

"The two news print machines which are being installed will be equipped with the Minton Vacuum Dryer, which, after exhaustive trial at our Kenogrami mill has proved an economical process. Prompted mainly by the desire to round out our holdings of timber limits, we disposed during the past year of what is known as our 'Batiscan' limits at quite a satisfactory price. The proceeds, in accordance with the terms of the trust deed, go towards redemption of our outstanding bonds

(*Continued on page 70*)

Pennsylvania Paper Mills Curtailing Output

Diminished Production Caused by Slower Demand Experienced From Distributors—Some Board Mills and Book and Bond Paper Plants Reported To Be Booked for Several Months Ahead—Wax Paper and Glassine Manufacturers Enjoying Seasonal Activity

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 21, 1928—With mid May days the local industry drifted into a quieter trend that indicated the slowing down of seasonal activity and a tendency towards summer dullness. While a few dealers reported hand to mouth buying fair interest in future orders was lacking. Consumers were prone to hold off their requirements and salesman had more difficulty in landing paper orders for immediate deliveries. Collections are fair despite the slackened pace of trading.

While a few board mills and manufacutrers of book and bond papers are booked with orders from four to six months in advance the average local mill is curtailing production to meet the slower demand of the distributors. One of the larger Pennsylvania manufacturers of bonds is well sold in advance and is from six to eigh: weeks behind on orders. A large coated paper mill featuring book grades particularly is reported four weeks behind. Wax paper and glassine producers are enjoying a seasonal spurt of orders for immediate delivery but are not sold ahead to any extent as might be expected at this season when hot weather requirements are anticipated. Wrapping paper producers are reported operating at fair capacity.

Following more than three months of keen competition among the mills manufacturing roofing papers and much cutting into values there is a more steady trend in the price of these commodities. Though prices have not been advanced they are holding firmly at the lower quotations to which they have been subjected during the last quarter of the current year. Demand is improving as outdoor life becomes more active and building operations are put under way. Compo shingles which a year ago were quoted at $4.85 are now being sold at $3.42.

With the inroad on some of the urgently needed grades of paper stock the acumulation of raw materials grows scarcer as spring demands consume all available supplies. There is a dearth of magazine stock and book papers which are heavily ordered by the mills and prices are at the pinnacle for the year. Ledger stock, news, hard and soft white papers are also among the popular grades that are just now in demand. Other grades of stock and rags are quieter, with accumulations low.

Wrapping Paper Division Meets

The Wrapping Paper Division of the Philadelphia Paper Trade Association met last Thursday at the Bourse Restaurant with Simon Walter presiding. While no important matters were taken up there was a general discussion with regard to present business conditons and a word of pleasure expressed over the recent talk given by Frank Lloyd, the executive secretary of the National Paper Trade Association, all the members having attended this enlightening introductory session for the purpose of hearing the newly elected executive tell of the plans of the national body.

Norbert A. Considine Leaves Hospital

Philadelphia trade associates and the wide circle of friends enjoyed by President Norbert A. Considine, of the Paper House of Pennsylvania, were cheered during the week when it became known that he was able to leave the hospital after a serious illness which imperiled his life for several weeks. He is now recuperating at the Haddon Hall Hotel, Atlantic City, where he will remain foi several weeks before returning to his desk.

Paper Men Attend Funeral of E. G. Lauder

Former paper trade associates of Edwin G. Lauder attended his obsequies during the week following his death from a complication of ailments. Mr. Lauder, whose age at the time of his death was 64 years, was the administrator for the paper house of C. S. Garret and Son, following the death of the former owner, C. S. Garrett, on behalf of his wdow, until the purchase of the business by the present owners. The Garrett Company was founded in 1851 and is now devoted to the distribution of roofing papers and builders paper goods.

Edorr Paper Stock Co. in Modern Home

The most modern of Quaker City paper stock quarters is devoted to the business recently opened by the Edorr Paper Stock Conmpany, Inc., now occupying the building at Water and Wolf streets, just completed. The home of the company is a modern daylight sanitary structure erected in the past year. The Edorr company is controlled by a personnel well known to the Pennsylvania state and city trade. It is a Pennsylvania Corporation, with Edwin I. Orr, president, Dave Pollock, treasurer and Eugene Hollander, secretary. President Orr has been linked with the Philadelphia industry for fifteen years and for eight years was manager of Infantee Brothers and for four years in charge of the busines of E. Burr. Treasurer Pollock, who is father in law of the head of the firm, is president of the firm of Meyer Pollock, Inc., engaged in the iron and steel and construction business at Pottstown, Pa., and a director of the Pottstown National Bank.

With every modern device for the handling of paper stock the Edorr company is equipped with automatic and electrically operated conveyors, baling presses and latest type portable bins with a complete screening and sorting equipment. Automatic conveyors are attached with the shipping platform for speedy handling of paper stock and loading along the six car railroad siding which is connected with the warehouses. There are 36,000 square feet of space available for storage of all grades of paper stock to be handled by the firm. The firm also conducts a direct shipment brokerage business carrying tonnage in all grades. There are eight automatic balers in use, each being of the 72 inch size. All stock is screened. The present capacity of the company is 90 tons per day and this will be increased to 150 tons per day in the next two months with larger capacity later on. Mr. Orr was for five years connected with the Philadelphia Waste Merchants Association on the board of directors and has a wide experience of all branches of the waste trade industry in the eastern territory.

New Corrugated Plant Operated by Board Mills

With the current month, the newly erected corrugated plant of the Container Corporation of America, located on the mill site in the Manyunk paper making district, was placed in operation. The corrugated plant will supplement the board mills and container division of the company and is a two story structure with considerable tonnage which will be increased as the mechanical units are completly installed. W. Gibson Carey, manager of the local branch of the Container Corporation of America, spent the week at the Chicago headquarters of the company.

Dill & Collins Co. In Shore Conference

Distributors of the Dill and Collins Company, manufacturers of book papers and other fine grades, met in annual convention at the Seaside Hotel, Atlantic City last week with a two days session devoted to constructive talk along the lines of future policies and plans of the company. Associates and officers of the Dill and Collins Company were included in the list of speakers presiding at the various business sessions interspersed with social diversions in the way of dinners and other entertainments which

the seashore offers. Distributors from various sections of the country were assembled at the gathering with 35 firms represented among the paper merchants handling the Dill and Collins lines. With an opening word of welcome, President Grellet Collins greeted the dealers and then outlined the 1928 plans before turning the meeting over to Wiliam H. Lloyd, secretary and sales manager of the firm. Under the direction of Mr. Lloyd the convention program was carried on with constructive and instructive features propounded by those best informed on the Dill and Collins Company products. The speakers were: Mr. Lockwood, of the Old Colony Envelope Company; J. B. Mackenzie, who talked on advertising and exploitation of Dilco products; W. R. Ingersoll, with a varied topic that covered many of the specialties of the mills and Vice President W. Mull, who took his audience through the technicalities of manufacture as conducted at the local headquarters where he is head of the production department.

Aatell & Jones Move to New Quarters

With the removal during the week of the offices of the Aatell and Jones Company to the newly erected home at 1314-16 S. Howard street, the converting and manufacturing concern, devoted to paper specialties will occupy a modern plant and building for the conversion of a diversified line of products. The new quarters consist of a two story structure erected on a plot 134 by 30 feet. There will be installed in the coming week the equipment for the printing and manufacture of a line of paper goods used by cafes, high class restaurants, clubs, schools, railroads, hospitals and other institutions.

Fire Damages Paper Stored by A. Goldman

The stored paper stocks of A. Goldman, who conducts a paper distribution stand in the Reading Terminal Market, were damaged by fire and water when the seventh floor of the Merchants Warehouse was destroyed last week. The fire started among the paper stocks of the Goldman company, when forty bales of 400 pounds each were destroyed. Most of the damage was by water and amounted to several hundred dollars. The warehouse is owned by Charles Goldman, founder of the Goldman Paper Stock Company, 414 South Front street, now conducted by his sons, and who recently retired after accumulating a large fortune following more than thirty years association with the paper stock industry. The warehouse is located at Kenilworth and Swanson streets, and is largely devoted to storage of pulp and paper owned by Goldman interests.

Col. Charles Carter Recovers

Col. Charles R. Carter, who represents the MacAndrews and Forbes Company paper board manufacturing department, is back at his desk after a serious illness. Following a brief recuperating sojourn at the sea shore, after a months illness, he returned to his duties last week.

Swedish News Print Production Drops

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 23, 1928.—Following the closing down of the Swedish paper mills, the output of news print during the month of March dropped to 1,457 metric tons as against 156,338 tons during the preceding month and 17,343 tons during the corresponding month of 1927. As a result of the slump in March production, the news print output for the first three months of this year totaled 22,332 tons as compared with 48,986 tons during the first quarter of 1927.

Pulp Plant Excavation Starts

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., May 12, 1928.—The Austin Construction Company, which has the general contract for the new plant for the Northwestern Pulp and Paper Company at Astoria, Ore., has let the contract for excavation to Pederson & Scott of Portland. This calls for 100,000 cubic yards of cut-and-fill and work will go forward at once, according to officials of the company.

Paper Salesmen's Printing Luncheon

That more effective cooperation between mill, merchant and printer would result in better satisfied printing customers and increased consumption of the grades of paper used by the printer, was the opinion expressed by E. F. Eilert, president of the Eilert Printing Company and John Clyde Oswald, managing director of The Employing Printers' Association, the speakers at the printing luncheon of the New York Division of the Salesmen's Association of the Paper Industry.

In discussing this problem of effective cooperation between the three factors in the printing paper field, the speakers made a number of concrete suggestions which were of great interest to the salesmen present and brought out an interesting discussion. S. C. Knode, vice president of the New York Division, is working on the personnel of a committee from his division to study the problem and report back in the near future on the most effective means of carrying out the recommendations of the speakers. The personnel of this committee will include salesmen handling all the grades in common use by the printing trade.

The speakers also emphasized the necessity for further standardization and simplification of printing papers and of printing ink and strongly endorsed the "thousand count" as a constructive step in this direction. Other topics covered were better service by both engraver and printer and the type of mill advertising most effective in stimulating the sale of printing paper. The speakers also gave an interesting description of the method used by the United Typothetae of America to educate the printer in the use of paper and ink suited to each other and the requirements of each printing job.

Dr. E. O. Merchant presented and discussed briefly a chart showing the trend of weekly commodity prices, according to four of the leading price indexes, commenting on the factors responsible for the recent upward trend in commodity prices.

Rapid Progress on New A. P. W. Enlargement

ALBANY, N. Y., May 21, 1928.—Rapid progress is being made with the plans of the A. P. W. Paper Company for enlarging its North Albany mill. Excavating for the largest of the two additions to be erected was completed this week and the H. K. Ferguson Company, contractors in charge, are now driving piles below the foundation excavation. Officials of the paper company announced that work will start next week.

The expansion plans for the North Albany mill, details of which were given in a recent issue of PAPER TRADE JOURNAL, call for an expenditure of $1,250,000. The largest of the additions on which work is now under way will house a new paper machine which is being built by the manufacturers. This unit, according to expectations, will be ready in July for the installation of equipment. The assembling and adjustment of the paper machine will probably require several months because of its size. Officials of the A. P. W. Co. say the new machine should be in operation by January 1.

Operation of the new machine and auxiliary equipment will increase the capacity of the North Albany plant almost 100 per cent. It will be run on the coarser tissues which will be made into the cheaper grades of paper towels and other products.

Bids for Government Paper

WASHINGTON, D. C., May 23, 1928—The Government Printing Office has received the following bids for 1,600 pounds of 24x36, red rope paper: Reese & Reese, at 10.45 cents per pound; R. P. Andrews Paper Company, 13 and 13.5 cents; Mathers-Lamm Paper Company, 12.5 and 11.5 cents; T. A. Cantwell & Co., 8.75 cents; and Virginia Paper Company, 11.37 cents.

Paper and Pulp Index Number

WASHINGTON, D. C. May 23, 1928.—Wholesale price index number for paper and pulp for April was 90.2 compared with 90.5 for March and 93.4 for April of last year taking 1926 at 100 according to the Department of Labor.

Ontario Paper Manufacturers Continue Active

Advance Orders Keep Book Paper Plants Exceptionally Busy—News Print Industry Proceeding Cautiously, Due to Fear of Over Production—Light Weight Paper Mills Transacting Good Volumes of Business Despite Keen Foreign Competition

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, May 21, 1928.—Some slight readjustments in quotations of standard grades of M. F. and S. C. book papers from the mills to the jobbers went into effect in Ontario a few days ago, resulting in a small reduction to the wholesalers. Prices to the publishing trade had been adjusted a few weeks ago to meet as far as possible the competition existing due to the 80 per cent drawback allowed by the Dominion Government in its readjustment of the Canadian customs tariff. In the new lists to the jobbers No. 1 M. F., carload lots, is reduced from $7.75 to $7.50; No. 2. M. F., from $7.50 to $7.25; No. 3 from $7.25 to $7.00; No. 1 S. C. from $8.25 to $8.00 and No. 3 S. C. from $7.75 to $7.50. The new prices are now in effect.

Most of the paper wholesalers report a slackening off in trade so far this month with some lines showing rather spotty tendencies. There is no volume buying on the part of the consuming trade, although individual orders are fairly numerous and enquiries indicate better conditions before the month has closed. Despite the fact that printers can now get very cheap book paper, owing to the continued existence of a price war in this class of paper, they are not stocking up to any great extent, although as a whole the printing industry in the Toronto district is quite active, particularly among the larger consumers of paper for publishing purposes. The generality of printing is not quite so busy but a steady improvement is being noted. Bonds and ledgers are selling well and there is a good call for Canadian-made blanks and blottings, while all light weight paper products are meeting with a good demand.

The mill end of the paper trade continues active, with the possible exception of the news print industry which is proceeding cautiously owing to what threatens to become a problem in over-production. Despite this, however, the market for news print continues quite strong and mills are disposing of their product without difficulty at the moment, although there is some speculation as to the course things will assume when future contracts are to be made. The book paper mills have orders on hand that will take them well on into the summer. Plants manufacturing this class of paper constitute the busiest section of the Canadian paper industry and there has been no let-up of activity there since the year opened. Coated paper mills are also fairly active, although they are not operating at full capacity. Manufactured stationery lines are showing some improvement and blank books and general office supplies are selling well. Light weight paper mills are doing a good volume of business despite a lot of foreign competition in tissues and toilets and there is a good call for both standard and specialty lines. The paper converting trade, also, is quite active, the demand for envelopes, especially, having increased materially during the past few weeks, following a rather quiet period.

The paper box industry, which has been busy all spring so far, has slackened off a bit, but on the other hand the board mills appear busy, with some of them behind in their orders. One wholesaler stated this week that he had lost a $10,000 order for board through inability of the mill to make sufficiently prompt delivery.

Garden City Mill Gets Trophy

For the purpose of receiving the shield and flag offered for competition by the Ontario Pulp and Paper Makers' Safety Association among the Ontario pulp and paper mills, employees of the Garden City Tissue Mills, Ltd., Merritton, Ont., met a few days ago and took part in an enthusiastic gathering. The company had a fine record in 1927, having experienced only one—and that a non fatal accident—during the year, involving five days' lost time, or 0.42 days' lost time per 1,000 hours' exposure to hazard. The meeting was called at the instance of Richard Carroll, the manager of the mill and was attended by representatives of all of the company's three mills. The shield and flag were presented to the employees by A. P. Costigane, secretary - engineer of the Ontario Pulp and Paper Makers' Safety Association, and were accepted by a representative from the company's printing department who expressed the satisfaction of his fellow employees at having headed the list in the contest.

Paper Salesmen Visit Quebec Mills

Accompanied by the entire selling force of the W. J. Bell Paper Co., Ltd., Phoebe street, Toronto, N. V. Morrison visited the plant of the Pyramid Paper Products, Ltd., Montreal, last week, and from there, accompanied by R. H. Bryan, manager of the Montreal company, and J. A. McCullough, sales manager of the Brompton Pulp and Paper Company, traveled to East Angus, Que., where the mills of the Brompton company were inspected. In the evening the party were banqueted at the St. George's Club, Sherbrooke, as the guests of J. A. Bothwell, general manager of the Brompton Pulp and Paper Company, and his associates. The outing proved of great educational value to the Bell salesmen.

New Forescreen and Knotter Developed

A new Forescreen and Knotter has just been developed by William Hamilton, Ltd., of Peterborough, Ont., a firm which has given to the pulp and paper industry nine patented machines for the processing of pulp during the past year and a half. P. P. Westbye who is largely responsible for the screen states that simplicity both in construction and operation are leading figures. The pulp enters the screen at the pulley end strikes a level slightly below the tailing trough. The revolving screen drum is octagonal and formed of perforated plates. These plates project beyond the drum and act as combs or scoops. The fine pulp passes through the perforated drum and is discharged through the outlet. The slivers and knots outside the drum are scooped up, washed by three overhead spray pipes and are discharged into the tailing trough. Due to the construction and action of the drum there is no disturbance of the impurities and the knots are not subjected to any rolling over action. This means that the knots instead of being broken up are discharged whole. The extremely simple mechanical action of the drum allows a large volume of pulp to be thoroughly screened in a remarkably short space of time. Depending on the perforations, an average of 40 to 50 tons of pulp per 24 hours will pass through the machine. Less than two horse power is required for the operation The machine is being installed in the new Forest Products Laboratories in Montreal.

Western Companies Are Merged

Dominion Envelope and Cartons, Ltd., Toronto, have acquired control of the Hitchins Paper Box Company, Winnipeg, the Winnipeg Paper Box Company, Winnipeg, and the Dominion Carton and Printing Works, Edmonton. A new company, with head offices in Winnipeg, to be known as "Dominion Envelopes & Cartons (Western)" will take over the three enterprises. A reinforced concrete building of 80,000 square feet has been purchased in Winnipeg and a new building is to be erected in Edmonton. The old company of

the Hitchins Paper Box Company who now have a building of their own, and the Winnipeg Paper Box Company, who also have a separate building, will be moved into the newly acquired building and manufacture under one roof. These three companies are the only carton manufacturers in the Prairie Provinces and will give considerable box board tonnage to the Dominion Boxboards, Toronto, owned and operated by Dominion Envelope and Cartons, who are just now contemplating erection of a new mill on the harbor front in Toronto.

Provincial Wins Safety Trophy

Arising out of the group idea inaugurated some time ago by the Ontario Pulp and Paper Makers' Safety Association, Toronto, an interesting contest was staged during the past six months of 1927, between the mills of Provincial Paper, Ltd., at Thorold, Ont., and the Interlake Tissue Mills, Ltd., at Meriton, for the best accident record between the two mills. The contest was conducted in the best sporting spirit, the employees of each company determining to annex the trophy. The trophy took the form of a loving cup and was put up for contest by A. P. Costigane, secretary-engineer of the association After a strenuous battle the Provincial mill won out and the presentation ceremony took place at the theatre in Thorold on the evening of May 16 in the presence of a large audience. T. N. Dean, Chief Statistician of the Ontario Workmen's Compensation Board, gave an interesting and illuminating address along safety lines in pulp and paper mills and firms bearing on accident prevention were shown. Presentation of the cup was made by Paul Buss as representing the employees of the Provincial mill and C. Nelson Gain, of the Interlake Tissue Mills was chairman of the proceedings. While the meeting was composed of employees and friends of the two companies concerned, it was felt that a big step forward had been made in the interest of all the pulp and paper mills in the district with respect to accident prevention.

Good Accident Record of Abitibi

The accident record for the first three months of 1928 in the plant of the Abitibi Power and Paper Company, at Iroquois Falls, Ont., is fairly satisfactory. There were fifteen accidents involving lost time, of which seven, or less than fifty per cent were compensation cases—that is to say in eight of the cases the men injured were off work less than seven days. The lost time during the three months was 2059½ hours, of which 755½ hours were for accidents in which the men went back to work the same month and 314 hours for accidents which were carried into another month. Wages lost during the same period amounted to $1,101.68 divided into $449.52 for the new accidents, and $652.16 for old accidents. This places the Iroquois Falls mill at the head of the list in regard to accidents for the first quarter of the year, with 1.7 hours lost time per thousand hours worked.

Notes and Jottings of the Trade

"New Ways Of Explaining The Value of Printed Salesmanship," is the title of a broadside received by the paper and printing trades from the publicity department of the Howard Smith Paper Mills, Limited, Montreal. The company have been putting on an extensive advertising campaign in an endeavor to find new ways of convincing the user of printing that the power of printed salesmanship is of immeasurable value, and the broadside reproduces a series of advertisements planned to create a question in the reader's mind as to whether he is making the fullest possible use of printing as a sales force. It is pointed out that the rewards in the way of orders will go to the printer who takes with him definite proposals illustrated by attractive dummies, and this will in turn increase the use of paper. The broadside is printed on the company's Bard of Avon, Laid India.

Mr. Decew, of New York, widely known as a paper mill engineer, has been spending some days in Thorold, Ont., on business.

Returning from the Pacific Coast this week, where he went in the interest of his firm, I. H. Weldon, president of Provincial Paper, Ltd., brought a satisfactory report as to the outlook for the paper industry throughout the Prairie and Western Provinces. Mr. Weldon also visited the company's mills at Port Arthur and was accompanied to the latter point by S. F. Duncan, secretary-treasurer of the company

A Federal charter has been granted the Madawaska Corporation, Ltd., with a capital stock of $2,600,000 and headquarters in Quebec to carry on a general pulp wood and lumbering business. Among the incorporators are Charles G. Power and Joseph Power.

A. P. Costigane, Toronto, secretary-engineer of the Ontario Pulp and Paper Makers' Safety Association, recently addressed a meeting of the St. Catherines Rotary Club on "Industrial Economics," in which he said that during 1927, fatal accidents had been reduced from seventeen to six, this meaning a saving to the industry of approximately $88,000. There had been no fatal accidents in the industry so far this year.

C. Nelson Gain, of the Interlake Tissue Mills, Ltd., Merriton, Ont., was recently elected president of the St. Catherines Rotary Club. Mr Gain is an ex-chairman of the Technical Section of the Canadian Pulp and Paper Association.

Estate of Thaddeus C. Sweet

PHOENIX, N. Y., May 21, 1928—The late Thaddeus C. Sweet, head of Sweet Brothers Paper Manufacturing Company, killed recently in an airplane accident, left an estate of more than $500,000, according to the will filed with the Oswego County Surrogate. The entire estate both real and personal is left to members of the family. All real and personal property in Phoenix including the Sweet home and personal belongings are left to the widow, who is also given $175,000 absolutely. $10,000 each is left to two grandchildren.

The remainder of the estate which includes stock of the Sweet Brothers Paper Manufacturing Company is left to the four children, Richard W., Burton W., and Ruth E. Sweet and Vera Shultz. Richard W. Sweet has been associated with his father in the conduct of the paper mill for some time. The will directs that Richard W. Sweet be given the privilege of taking his entire share or any part of it in stock of the Sweet Brothers Paper Manufacturing Company and that he be given the option of purchasing any of the balance of the stock of the company at a price which will be fair to himself and to the other heirs. In the event Richard Sweet does not take advantage of this the will directs that the same rights be accorded to Burton W. Sweet, a younger son.

Fort Wayne Paper Firms Merge

INDIANAPOLIS, Ind., May 21, 1928.—The Becker Paper Company, located in Fort Wayne, Ind., for the last 30 years, and the Rothschild Paper Company, in the same city 27 years, have formed a merger to be known as the Becker Paper Company, according to an announcement by Phil Danehy, president of the new company. The merger will make the new company one of the largest of its kind in Indiana, with a force of 20 salesmen from the Becker organization and 10 salesmen from the Rothschild firm combined under the new organization. Articles of incorporation have been filed showing an initial capital stock of $200,000.

In order to reduce overhead and other costs, the new company will be located in the building now occupied by the Rothschild company at 126-128 East Columbia street. The Becker organization now is located across the street.

The negotiations were transacted by Mr. Danehy and Joseph S. Rothschild and Otto B. Rothschild. Both the latter will retain financial interest in the merged company. Other officials of the new organization are: Charles L. W. Gross, vice president, and Fred C. Korte, secretary-treasurer.

Paper Mill Activities in Fox River Valley

Construction of Interlake Pulp & Paper Co.'s New Digester Plant Proceeding Rapidly—Wisconsin Paper Industry Encouraged by Passage of McSweeney-McNary Forest Research Bill— Consolidated Company Plans to Transport Paper By Water

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 21, 1928.—With a crew of 105 men employed, the building of the new digester plant of the Interlake Pulp and Paper Company, of Appleton, Wis., is proceeding rapidly. Within a short time the working force will be increased to 180 men so the progress will be faster, and time lost on account of snow and rain will be made up.

It was necessary to drive sheet piling around practically the entire building site before excavation could be started because there is only a thin fill of land between this spot and the Fox river, and a seven foot head of water had to be overcome. Two six inch pumps were kept in operation continuously. Part of the concrete for the footing has been poured and a steel tower 105 feet high has been put up preparatory to erecting the walls. A. M. Vanderhei is acting as superintendent of construction.

Forest Research and Conservation

Passage of the McSweeney-McNary forest research bill by the House of Representatives is a source of encouragement to Wisconsin paper mill interests, because it means greatly increased appropriations and an expanded research program for the United States Forest Products Laboratory at Madison, Wis., and the Lake States Experimental Station, at St. Paul, Minn. The bill authorizes a program of research in forestry and conservation over a ten year period with an allowance of $3,700,000 for this work, although no actual appropriations are made by the measure. It is believed ultimate enactment into law will come without question, because this bill and the one passed by the United States Senate are so similar they readily can be agreed upon in conference.

This action follows closely on the heels of activity such as Wisconsin never has known before for preservation of the existing timber supply and the planting of forests for the future. It has been virtually agreed that the northern sections of Wisconsin are more adaptable to timber than agriculture, and planting of thousands of acres already has been accomplished, some of it by paper mills themselves.

Some delay has been encountered in the movement to set aside 125,000 acres of land in four counties for a federal forest preserve. Approval of the state land commission is necessary, and sanction has been withheld because this body has made loans to a number of school districts within these counties. Purchase by the government would remove the tax revenue and prevent the refunding of these loans. As soon as the commission finds a way out of this difficulty, ratification is expected.

Wisconsin and Minnesota, both of which have extensive paper mill and lumber industries, are joining together in working out reforestation and conservation plans. The interim committee of the Wisconsin legislature and the Minnesota Reforestation commission have been meeting together to draft their program. Fire prevention is one of the important considerations, as well as a uniform and feasible plan for taxation of lands devoted to timber growing.

Fox River Valley Safety Conference

Anticipating a large attendance of paper mill executives, foremen and employees, the committee in charge of the annual Fox River Valley Safety Conference to be held at Oshkosh, Wis., on June 6, has arranged for this sectional conference to be held at the new Fischer Theatre, the largest auditorium in the city. Safety leaders in some of the Wisconsin mills will give talks and lead in discussions on the extension of this work. One of the speakers will be H. G. Noyes, state director of paper and pulp mill courses in the vocational schools. His subject will be, "The Foreman—A Teacher of Safety."

All of the morning sessions will be sectional. General meetings will be held in the afternoon and evening, with the main address by Glenn Frank, president of the University of Wisconsin. An attendance of approximately 2,000 is expected. Arrangements are being handled by the Oshkosh Chamber of Commerce.

Consolidated Buys Freight Steamer

Purchase of a bulk freighter, the *Francis L. Robbins,* has been announced by the Consolidated Water Power and Paper Company, of Wisconsin Rapids, Wis. The vessel was obtained from the Becker Steamship Company, of Cleveland, Ohio, and will be used to transport news print from the company's subsidiary mill, the Thunder Bay Paper Company, of Port Arthur, Canada, to Detroit and Chicago.

This craft is 380 feet long, 50 feet wide, and 28 feet deep. It has a capacity of 6,500 tons. The company is installing an additional deck and special machinery for the handling of paper. Although the Consolidated has transported pulp wood for some time with its own tugs and barges, this is the first time the transportation of paper via water has been tried. Shipping will be started in about a month.

News of the Industry

Summer working schedules have been adopted in the offices of the Kimberly-Clark Company, at Neenah, Wis. Employees now report at 7:30 in the morning, and leave at 4.30 in the afternoon. The arrangement has been in effect in past years and is found to be popular because of the earlier quitting time in the afternoon.

Employees of the Wisconsin Rapids and Biron divisions of the Consolidated Water Power and Paper Company have completed a course in first aid, consisting of five lectures by Dr. P. E. Wright. The subjects covered were fractures, bleeding, shock, treatment and dressing of wounds, and artificial respiration. Teams from each mill engaged in a contest after the final class session, and the results were announced by the judges as a draw. Approximately eighty men took part.

An increase of 89 members has been recorded since a year ago by the Employees Benefit Association of the Consolidated Water Power and Paper Company, of Wisconsin Rapids, Wis. The enrollment now numbers 772. Benefits paid during April amounted to $540.00, representing disability and hospital payments. Members receive $2.00 a day when disabled, and hospital expenses. The death benefit is $1,500.00.

March and April were perfect months at the Biron mill of the Consolidated Water Power and Paper Company. No lost time accidents were recorded during that time. A record of at least six perfect months now is sought by the employees.

Edington Paper Co. Formed

INDIANAPOLIS, Ind., May 21, 1928.—Articles of incorporation have been filed with the secretary of state in Indianapolis by the Edington Paper Company, Inc., of Linton, Ind. The corporation has an initial capital stock of $50,000 and is formed "to do a wholesale paper, merchandise and supply business." The incorporators are Rufus Edington, Cella J. Edington and Victor L. Edington.

To Hold Conference on Paper Tags

WASHINGTON, D. C., May 21, 1928.—A preliminary conference to consider a tentative simplified practice recommendation for paper tags will be held at the Department of Commerce, Room 704, under the auspices of the Division of Simplified Practice, on May 25, 1928.

Outlook for Chicago Paper Market Favorable

While Distributors Report That Competition Has Reduced Margin of Profit, Local Merchants Are Generally Optimistic—Demand for News Print Continues Fairly Satisfactory—Wrapping Paper and Tissues Moving in Excellent Volume

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 21, 1928—Various reports in Chicago paper trade circles have it that business conditions are not quite as favorable as they should be. The production of paper continues on a fairly good basis but dealers report that competition has reduced the margin of profit to an appreciable extent, so that, in some cases, paper men are reported selling paper at no profit whatsoever.

However, the market outlook is favorable and there is little of the pessimistic in the attitude taken by Chicago paper merchants. News print is keeping well up with its production of last year and the demand is continuing strong enough to keep the market in fair shape. Wrapping paper and tissue papers are steady and experiencing a very satisfactory demand. Book paper mills are making an extended effort to get business according to reports and these reports state that this effort has, in a few cases, shaded the book paper market. However, there is a fairly large quantity market in book paper, making the tone steady.

Fine papers continue about the same as last week, with the business being there but the orders continuing to be in small quantities. A slight slackening in demand is reported except in those grades utilized for invitations for commencements, etc. Kraft papers have improved somewhat in the Chicago market, according to this weeks reports.

Association to Discuss Coarse Paper

The Chicago Paper Association will hold its next regular meeting on the evening of Tuesday, May 22. The event will be in the nature of an open meeting at which practically every legitimate coarse paper jobber and distributor in the city of Chicago will be invited. No special program of speeches or entertainment has been planned according to information received from Leo Althaus, president of the association. However, the object of the meeting is to disseminate information on just what the association is doing for the coarse paper trade in general It is felt that many of the activities of the progressive association are sufficiently far reaching to benefit all of the merchants in Chicago. The plan is to point out the efforts to be made in an endeavor to unite all paper merchants in this field into one harmonious body working for the interests of the Chicago Paper Association.

Rantoul Describes Mulch Paper

Mr. Rantoul, of the New York Division of the International Paper Company, was a guest of the Chicago Division of the Salesmen's Association of the Paper Industry at the regular Monday meeting of the group at the Hamilton Club. The meeting was exceptionally well attended. Mr. Rantoul gave an interesting talk on the new "Mulch" paper, a scientific development for using paper to promote the proper growth of practically every kind of plant. The use of Mulch paper in the planting of pineapple trees has been in vogue for some time. The paper is now being successfully introduced in the states.

Paper Salesmen Open Golf Season

The Chicago division of the Salesmen's Association of the Paper Industry will hold its first golf meeting of the season, Thursday, May 24, at the Wilmette Country Club, north of Chicago. This announcement has been made by Tom Donahue, Warren Manufacturing Company, chairman of the golf committee. The fiercely competitive golfers of the association will fight it out next Thursday for a blind bogey prize. Mr. Donahue states that a tournament is planned for the months of May, June, July, August and September. The series of events should give about every salesman in Chicago a chance to cop off some prize There are some old scores to be settled this summer and the golf committee looks for an unusual large turnout for each of the five monthly events.

News of the Trade

Number 35 of the Westvaco Inspirations for Printers has just reached the desks of the trade. Number 35 happens to be the Oriental Edition and it seems to bid fair as one of the most attractive yet issued. Samples of the Oriental in the art of the printed page are included in the booklet. The edition contains an interesting history of China and the methods used by the West Virginia Pulp and Paper Company for suggesting the advertising riches that existed in past decorative periods. Some of the many ways in which Oriental art is now being used in modern advertising with a number of useful suggestions as to the using of these expressions by printers for the modern world of business are included.

Although, at this writing, it was too early to get any full information on the recent meeting of the Paperboard Industries Association held at the Palmer House, Chicago, May 16 and 17, H. S. Adler, secretary of the association reports that a very good attendance was on hand to benefit by the two day meeting. The location for the next of the meetings has not yet been announced.

The Rockford Paper Box Company, of Rockford, Ill., has let a contract for the construction of a new addition to cost $200,000. The addition will be used for increased production and as a warehouse for the storing of raw materials.

Two new lines have been added to the stock of Allen & Co., Chicago paper merchants The two lines are Empire Bond and Court Linen Ledger, made by the Carew Manufacturing Company. The Court Linen Ledger line will come in all sizes and weights in three colors, white, blue and buff. Empire Bond comes in all colors, with envelopes to match.

The Paper Mills Company, 517 South Wells street, Chicago, recently announced the addition to their line of Credit Ledger, made by the Fox River Paper Company. Credit Ledger is a rag content paper, strong, durable and attractive. It comes in white and in the standard Fox River buff. The paper is reported as taking both ruling and printing exceptionally well and it is especially recommended when offset lithography is indicated. It is handled in both regular and loose leaf sizes.

Among the many visitors to Chicago paper houses during the past week were the following; Perry Lesh, C. P. Lesh Paper Company, Indianapolis; F. J. Ostermeyer, Indiana Paper Company, Indianapolis; Bob Fleicher, Century Paper Company, Indianapolis; James Nelson, Central Topeka Paper Company, Topeka, Kansas; Ellis Jones, Kansas City Paper House, Kansas City, Mo.; J B. Jones, Western Newspaper Union, Omaha, Neb.; and R. M. Beckwith, Minneapolis, Minn.

River Raisin Makes Good Showing

KALAMAZOO, MICH., May 21, 1928—The River Raisin Paper Company, Monroe, reports earnings of $215,689 before depreciation and federal taxes for the first quarter of 1928. Sales for the three months were $270,000 greater than in the first quarter of 1927.

C. C. Heritage Heads Pulp and Paper Section

MADISON, Wis., May 21, 1928.—The appointment of Clarke C. Heritage to the position of senior chemical engineer in charge of the section of pulp and paper of the Forest Products Laboratory, at Madison, Wis., succeeding John D. Rue, recently resigned, is announced by the Forest Service, U. S. Department of Agriculture. Mr. Heritage brings to his new responsibilities wide industrial experience in directing development work, from laboratory research to sales extension of commercial products.

After completing his technical training at the University of Chicago and at the Armour Institute of Technology, where he received his degree in Chemical Engineering in 1914, Mr Heritage entered the pulp and paper industry as chemical engineer with the Nekoosa-Edwards Paper Company at Port Edwards, Wisconsin. Under the direction of W. G. MacNaugton he investigated the operating variables in wood preparation, sulfite acid manufacture, and sulphite pulp bleaching.

In 1916 Mr. Heritage was engaged in the production of synthetic phenol and later was appointed to the technical staff of the Schoellkopf Aniline and Chemical Works at Buffalo, N. Y., to bring into production a large tonnage of newly developed intermediates and subsequently to supervise the manufacture of war gases upon the establishment of a branch of the Chemical Warfare Service in Buffalo.

CLARKE C. HERITAGE

Before returning to the pulp and paper field in 1925, Mr. Heritage held the positions of development engineer and plant engineer with the National Aniline and Chemical Company at Buffalo, being identified particularly with the consolidation and redesign of the plants and the development of new products.

Since 1925 Mr. Heritage has been engaged in technical development work in the paper board industry, first in the field of test liner chip news, and lined boards with the Paper Board Corporation, and more recently in the field of chemical and mechanical pulp boards, both plain and laminated, with the Cornell Wood Products Company. Much of this work had to do with the sales extension of paper board products by the development of physical properties as determined by use requirements, combining original research with immediate commercial application.

Mr. Heritage has been a member of the Technical Association of the Pulp and Paper Industry from its inception in 1915. He is a member of the American Institute of Chemical Engineers, having served for several years as committeeman on Chemical Engineering Education.

Taggart-Oswego Corp. To Expand

OSWEGO, N. Y., May 21, 1928.—Corwin T. Jewell, general manager of the St. Regis Paper Company and affiliated concerns, has announced plans for doubling the capacity of the new bag factory of the Taggart-Oswego Paper and Bag Corporation Construction work will start immediately on a new building of concrete and steel and the same general design as the present bag mill. Operation of the new unit will increase the output from 180,000 bags to 350,000 bags daily.

Mr. Jewell said that the new building will be 360 feet long, 67 feet wide, and two stories high. Construction operations will be in charge of officials of the St. Regis Paper Company who handle building operations of the Carlisle interests in Northern New York. The new mill will be erected east of the present mill and the second floor will be thrown into one building with a floor area 360 by 166 feet. The present east wall of the second floor will be removed and all bag manufacturing operations will thus be done on one floor. The first floors of the two mills will be used to increase storage capacity. Construction work will get under way at the earliest possible moment.

Mr. Jewell said that the addition of the new mill will make it possible through additional equipment to handle the entire daily tonnage of the papermaking department which at the present time is approximately 85 tons daily. Increased demand for Taggart cement bags is said to be responsible for the decision to enlarge the local plant. Several months will be required to complete the new building.

Mr. Jewell while in this city held a conference with David A. Fleischman, manager of the bag factory. He stated later that the new mill is increasing output daily and everything is operating satisfactorily.

Visit P. H. Glatfelter Plant

SPRING GROVE, Pa., May 21, 1928.—On Friday, May 18, the members of the Apprentice Course of the Government Printing Office made an inspection of the plant of the P. H. Glatfelter Company at Spring Grove, Pa. One hundred and forty-five members of the class made the trip in five large motor busses.

The entire party was in charge of Burr G. Williams, Instructor of Apprentices in the Government Printing Office.

Leaving Washington about 7:30 A.M. the party reached Spring Grove at noon. After taking of photographs, lunch was served at the Aldine Hotel. Following lunch, there was a showing of "A Short Course in Papermaking" in the Auditorium of the Papermakers' Club. This enabled the apprentices to follow more intelligently their trip through the pulp and paper mill.

Accompanied by fourteen guides, the party was split into groups and followed the process of papermaking from the wood yard to the finished product.

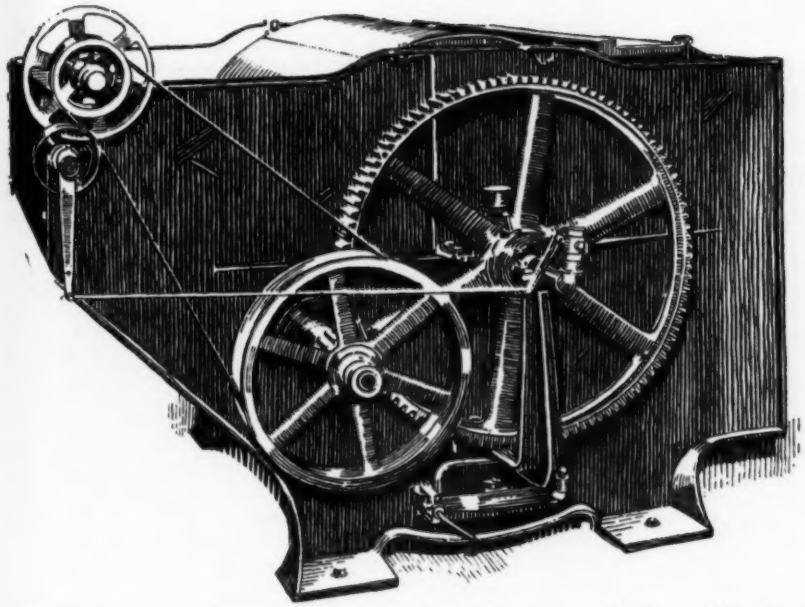
On leaving, Mr. Williams presented the officers of the P H. Glatfelter Company with a handsomely printed "Expression of Appreciation by the United States Government Printing Office Apprentices" containing a roster of all the apprentices who accompanied the trip.

After leaving Spring Grove, the return trip to Washington was begun with a stop being made at Gettysburg for a short trip over the battlefield.

Victory Bag Output Expands

APPLETON, Wis., May 21, 1928.—Increased output of the Victory Bag Company, of Marinette, Wis., is shown by an employment survey made in that city recently. The company had an average of 155 men on its pay roll during 1927 but now is employing 205. The Marinette and Menominee Paper Company is employing 502 persons, the same number as a year ago. Industrial conditions in Marinette are shown to be the most favorable they have been for some time.

BIRD MACHINERY



The BIRD SAVE-ALL
does these four things

We believe the Bird Save-All is your idea of a Save-All.

Ask us for layouts and estimates.

1 It gets the paper-making fibres out of the white water ready for use at their highest value—as paper machine stuff.

2 It puts the remaining white water in shape for use in shower pipes so as to get all the value out of it.

3 It does this at moderate cost, purchase price and operating cost considered, with the least amount of attention.

4 It recovers the stock at the lowest cost per pound—bringing you the highest net profit for the job.

BIRD MACHINE COMPANY
South Walpole Massachusetts

1863

Trade Mark Departments

CONDUCTED BY NATIONAL TRADE-MARK CO., WASHINGTON, D. C. The following are trade mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister Bldg., Washington, D. C., trade-mark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

CLEARLAKE, No. 246,479. International Paper Company, New York City. For writing and printing paper.

ZIP TWINE, No. 248,899. Gripsit Corp., Cambridge, Mass. For twine and household cord.

GRALYN, No. 255,094. Buffalo Envelope Company, Inc., Buffalo, N. Y. For envelopes made of paper for carrying booklets, etc.

GRAYBECO, No. 255,095. Buffalo Envelope Company, Inc., Buffalo, N. Y. For envelopes made of paper for carrying booklets, etc.

COLUMBIAN Tow-Ro, No. 261,554. Columbian Rope Company, Auburn, N. Y. For rope.

BRODANO, No. 262,927. Perkins-Goodwin Company, New York City. For tissue paper.

NUVOPAK, No. 263,536. Cambridge Paper Box Company, Cambridge, Mass. For paper boxes.

IVANHOE, No. 263,535. Cambridge Paper Box Company, Cambridge, Mass. For paper boxes.

BENDRITEBAK, No. 253,978. Benjamin D. Benson & Sons, Inc., New York City. For binding for bank checks, printed forms, and other sheets.

AICO, No. 257,847. George J. Aigner, Chicago, Ill. For supplies for filing systems or equipments.

A C, written on a black diamond. No. 259,958. Hughes Fawcett Inc., New York City. For twines.

GOLD VALUE, No. 260,563. Finkel Paper Co., Brooklyn, N. Y. For toilet paper.

CRESCENT, No. 263,074. Crescent Paper Dish Company, Inc., Brooklyn, N. Y. For paper dishes.

SERVICE BOY, No. 263,230. Service Grocer Company, Inc., Detroit, Mich. For twine.

PARAMOUNT and picture of a sunrise. No. 258,275. Paramount Specialty Company., Springfield, Mass. For paper napkins, paper towels and toilet paper.

BLUE BIRD. No. 259,377. U. S. Paper Company, Los Angeles, Calif. For toilet paper.

CLASSIC. No. 259,378. U. S. Paper Conmpany, Los Angeles, Calif. For toilet paper.

OAKDALE. No. 261,764. Oakdale Cotton Mills, Jamestown, N. C. For twine, rope, and cord.

CHIEF and head of an Indian chief. No. 261,770. Rochester Paper Company, Rochester, Mich. For blotting paper.

MEADOWBROOK. No. 262,965. Kansas City Paper House, Kansas City, Mo. For book paper.

IMPERIAL. No. 263,075. Crescent Paper Dish Company, Inc., Brooklyn, N. Y. Fof paper dishes.

SILVERTONE. No. 263,208. Fort Howard Paper Company, Green Bay, Wisc. For toilet paper, crepe paper, paper napkins and paper tablecloths.

MARVELTONE. No. 263,712. The Marvellum Company, Holyoke, Mass. For cover paper.

Give Banquet for Twin City Salesmen

[FROM OUR REGULAR CORRESPONDENT]

MINNEAPOLIS, Minn., May 21, 1928.—The paper merchants of Minneapolis and St Paul gave a banquet Friday evening April 27 at the Nicolet Hotel, Minneapolis, for the Paper Salesmen of the Twin Cities.

This was a very successful meeting. There was an attenddance of approximately 160 salesmen and executives from the following paper houses in the Twin Cities: Anchor Paper Company, St. Paul, Battin-Quinn Paper Company, Minneapolis, Martin F. Falk Paper Co., Minneapolis, Harry Faldt Paper Co., Minneapolis, F. G. Leslie Paper Company, St. Paul, Johnson Paper & Supply Co., Minneapolis, The John Leslie Paper Co., Minneapolis, Nassau Paper Company, St. Paul, McClellan Paper Company, Minneapolis, E. J Stilwell Paper Company, St. Paul, Minneapolis Paper Co., Minneapolis, Minnesota Paper & Cordage Co., Minneapolis, The Paper Supply Company, Minneapolis, Seaman Paper Company, Minneapolis, Sutherland-Pils Company, Minneapolis, Wilcox-Mosher- Leffholm Co., Minneapolis, Inter-City Paper Co., St. Paul.

Ralph M. Beskwith, vice-president of the Minneapolis Paper Company, was chairman of the committee on arrangements, and officiated as toastmaster. H. D. Montgomery of the John Leslie Paper Company and O. S Barrie of the McClellan Paper Company were the other members of the Committee.

Mr. Barrie lead community singing. A three piece orchestra furnished excellent music.

Before the regular program every person present was introduced to the group by the person sitting next to him. This took all stiffness out of the meeting and developed a fine spirit of friendliness, which was one of the chief purposes of the meeting.

A little skit arranged by the Committee showed Mr. Montgomery as a paper buyer interviewed various types of salesmen, acted by the following, who each recited a humorous verse depicting the type of salesman he represented: "The Credulous Sales"—Mr. Trichler, Battin-Quinn Paper Company, Minneapolis; "Wrong Product"—Victor Johnson, Johnson Paper & Supply Co., Minneapolis; "Order-Taker"—H. C. Anderson, Martin F. Falk Paper Company, Minneapolis; "The Bidder"—Mr. O Lundberg, Paper Supply Company, Minneapolis; "The Rusher-In-and-Out"—Mr. Gilbert, Minneapolis Paper Company, Minneapolis; "The Knocker"—Mr. Hinsey, Minneapolis Paper Company, Minneapolis; "Just-As-Good-As"—Wm. Boyer, John Leslie Paper Company, Minneapolis; "The Perfect Salesman"—John Marko, F. G. Leslie Paper Company, St. Paul. This stunt went over big. Martin F. Falk recited a poem.

Harry W. Mathewson, vice-president of the National Paper Trade Association, was the first speaker He told some interesting experinnces as a salesman in the past. In concluding he told about finding in the Bible proverbs which are appropos to present-day selling—especially in relations with competitors. He had three of these Proverbs printed, which were at the plate of each one present—a copy of which is inclosed.

This is the second annual banquet of this sort given by the Twin City Paper merchants, and it undoubtedly will be an Annual affair.

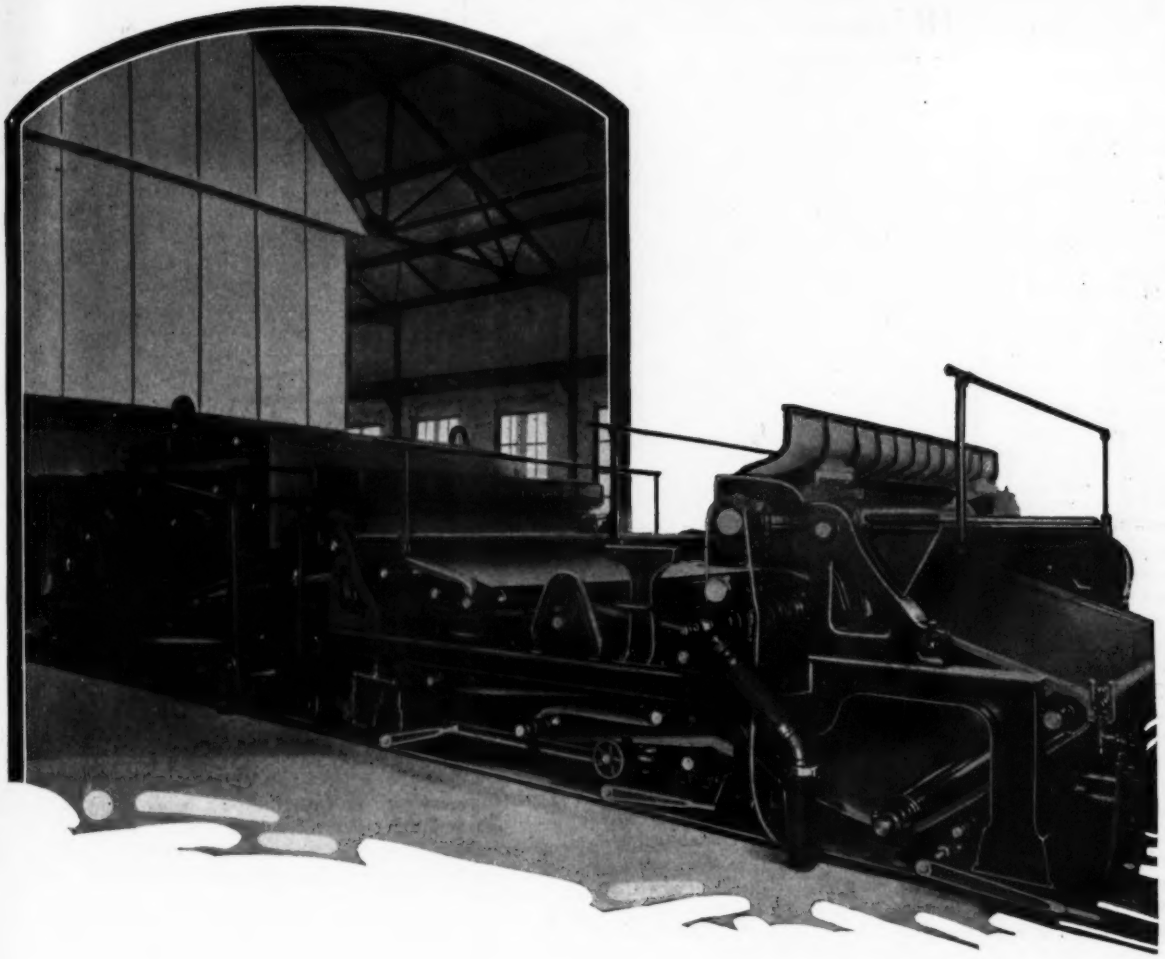
Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 23, 1928.—Paul W. Cheney, of the Southworth Paper Company, was elected president of the New England Travelers Club at a recent meeting at the Boston Chamber of Commerce. The club is composed of manufacturers' representatives who are selling the stationery trade in New England.

The other officers are: First vice president, Chauncey Krotz, of the J. G. Shaw Blank Book Company; second vice-president, Wm. J. Chaplin, of the L. E. Waterman Company; secretary, Robert W. Meyers, of the Eaton, Crane & Pike Company; treasurer, Guy W. Hart, of the Joseph Dixon Crucible Company. Membership committee—Herbert Blizard, Stationers Loose Leaf Manufacturing Company; Malcolm Dresser, Standard Diary Company; Courtland J. Worth, Estabrook Pen Company. Custodian—Henry M. Bennet, Wm. L. M. McAdams Company.

Alex. M. Phillips, representing S. Sternberg, London, England, the well-known maker of machine wires, called on the Boston and other New England trade last week.



Simplicity of Design

IN a paper machine, no matter how great the efficiency of design or operating features may be, its service ability and investment value must always be gauged by its ruggedness. Upon its simplicity and strength depends its ability to make its advantages reliable, continuous and economical.

The illustration shows the press part of one of our latest developments, the Keystone Removable, Adjustable, Shakable Fourdrinier. This particular machine makes kraft and specialties at the Hinde & Dauch Mill, Trenton, Ontario, Canada. Note the Kilberry Suction Press Roll.

Investigation of Downingtown Machines (Fourdrinier and Cylinder) will disclose their rugged simplicity which is so essential for uninterrupted performance.

Our Products Meet Our Promises

KEYSTONE Fourdrinier

Downingtown Mfg Co. Downingtown Pa.

Obituary

George J. Cadwell

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 22, 1928.—George J. Cadwell, 56, recently elected vice president and since 1923 general sales manager of the American Writing Paper Company, died suddenly Friday morning at the Holyoke Hospital where he went to undergo an operation that was not considered serious at the time.

Mr. Cadwell was on a western business trip with President Sidney L. Willson of the Company and on the 11th slipped and fell in his hotel at Del Monte, Cal., breaking his left shoulder. The break was set and he started east with Edward Wesson of the Seattle, Wash., office. On his arrival here he went at once to the hospital where an X-ray examination showed that the setting needed correction. Incident to the work an incision was made and an embolism or bloodclot formed and making its way to his heart resulted in his death.

Mr. Cadwell had been the unfortunate victim of other accidents, earlier in his life a broken ankle that would not heal leading to amputation of the foot and last year a broken wrist gave him further trouble. Nevertheless he "carried on" with surprising vitality and energy and his services were so much esteemed that at the recent annual meeting of the Company he was made a vice president.

George J. Cadwell was born in DeWitt, Mich., April 30, 1872, son of Mr. and Mrs. Jason Russell Cadwell who had served as missionary in India and held pastorates in the Methodist church in Michigan and Illinois. Young Cadwell graduated from the Hyde Park High School in Chicago and from the University of Michigan in 1894, being a roommate at the latter institution of Stewart Edward White with whom he maintained a close friendship.

He was captain of the varsity football team and president of his class. After graduation he decided to take up salesmanship as his life work and was for 10 years engaged in sales work for the General Electric Company and the Allis Chalmers Company. He then went to the Christianson Engineering Company remaining until the firm merged with the Westinghouse Company when he went into business for himself selling equipment for power plants and paper mills with headquarters in Minneapolis, Minn.

In 1918 he joined the Chicago office of the American Writing Paper Company and in August, 1919, was transferred to the main offices at Holyoke as assistant general sales manager. July 1, 1923 he was made general sales manager a position he held until his death. He married Miss Harriet Cole, of Buffalo, who with one sister, Mrs. Grace Nolan, survives him.

Mr. and Mrs. Cadwell have taken a prominent part in the social life of the city He was a member of the Rotary Club, Mt. Tom Golf Club and of the Old Colony Club, of Springfield. The funeral was held this afternoon at his home 37 Dartmouth street with burial in Forestdale cemetery.

Thomas J. Sennett Dead

GLENS FALLS, N. Y., May 21, 1928.—Thomas J. Sennett, 54 years old, who has been closely identified with the pulp and paper industry of this section for the greater part of his life, died at his home here this week a short time after he had been taken with a heart attack. Although in poor health for years he was able to devote several hours each day to his various business interests. Mr. Sennett was an official of the Northern New York Foundry & Machinery Co. of this city, makers of papermaking machinery.

Mr. Sennett spent the early years of his life in Fort Edward becoming identified with the plant of the International Paper Co. when a young man. Showing adaptability for papermaking he advanced rapidly and eventually became an executive of the mill. Leaving the International Paper Co. he went with the Union Bag & Paper Co. at Hudson Falls and for several years served as superintendent of the firm's groundwood department. Later he became yard superintendent for the Union Bag Co.

When the Northern New York Foundry & Machine Co. was organized in 1917 Mr. Sennett became a stockholder and has served since as secretary of the company, his experience in paper manufacturing proving a valuable asset to the firm. In addition he was identified with various business enterprises here, being president of the Glens Falls Construction Company, secretary of the Citizens' Garage, and secretary of the Allen Air Appliance Company, the latter concern being recently incorporated.

Fair Paper Demand in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 21, 1928.—In spite of hand to mouth buying on the part of consumers, the local paper trade, in glancing back over business done since the first of the year find themselves, generally, somewhat ahead of the same period last year. The result is surprising to most of them who had believed that the first five months of 1928 would run behind the same five months of 1927.

One reason for this assumption, according to one paper merchant, is the character of orders being received. Most orders call for small amounts. But the frequency of these orders has more than made up the total volume. The local jobbers are about reconciled to the fact that they will have to carry most of the overhead for the consumer, including storage and other items. The consumer is buying only when he needs to and is making no attempt to keep any stocks on hand.

This situation is beneficial in some ways, however, for there is a bigger volume of cash business being done now than a year ago and the paper merchants are not fearing some consumer will get caught with a lot of surplus on which a loss will have to be taken. Credit conditions also have improved.

Demand for news print continues good. The advertisers are keeping the daily papers up to a good number of pages and the market promises to improve, particularly so if there is any real spring weather. The fine paper market shows little change, the buyers using the hand to mouth system of buying. A fair volume of inquiries is being received, however, indicating some future business in prospect

Experiments with New Zealand Woods

MADISON, Wis., May 21, 1928.

Editor PAPER TRADE JOURNAL:

We note in the last issue of the Paper Trade Journal of May 10, on page 29, a news item emanating from Appleton, Wis., entitled "News Print from Tawa Wood." We regret that this inaccurate account of work which has been going on cooperatively between the New Zealand Forest Service and the Forest Products Laboratory should have gotten into print at this time. We thought that you might desire to make it clear to your readers that this investigation of the proper utilization of New Zealand woods has been conducted by the Forest Products Laboratory during the last nine months, and that fairly complete, and of course authentic, information will be forthcoming from this Laboratory at such time as the New Zealand State Forest will have had opportunity to thoroughly digest the reports made to them, and take such business action as they desire. It has been through deference to them that we have not made a news release on this particular work, but such release may be expected in due course.

With best regards, we are

very sincerely yours

C. C. HERITAGE, In Charge,
Section of Pulp and Paper.

This *Fast Circulating* Beater Covers *Short Run* Problems

Here is a beater that was originally designed with the object of cutting beating time. And it does,—tremendously!

But in actual use it has demonstrated a new function, one of highest economic importance wherever short runs are a problem.

Its increased capacity and speed and reduced furnish and dumping time more than compensate for the time and labor losses in changing over. Short runs become profitable.

New, novel principles in design are utilized that provide complete hydrating and more frequent circulation of stock of unusually high density. Dead spots and stagnant accumulations of pulp are eliminated. Color mixes readily.

Beater roll harness is of a new type that always returns the roll to its exact position on the bed plate. Excessive wear on bars and bed plate is overcome and stock treatment is unfailingly uniform.

Your present beaters can be converted to this efficient fast circulating type,—to your advantage in cost reduction and production increase. *Let our engineers help you modernize your beating room. Write for full details.*

NOBLE & WOOD MACHINE COMPANY

Hoosick Falls New York

New York Trade Jottings

Ralph S. Hosmer, professor of forestry, of Cornell University, Ithaca, N. Y., was a New York visitor last week.

* * *

Kieth Gainer, of the Three Rivers mill of the International Paper Company, was in New York early this week.

* * *

B. S. Summers, who has been carrying on development work for the International Harvester Company in Cuba, spent a few days in New York before returning to Chicago.

* * *

H. R. Heuer, formerly of the Hawley Pulp and Paper Company, is now temporarily located at Carthage, N. Y.

* * *

Among the visitors to New York this week was O. L. Cash, of the Lehigh Lime Company of Chicago.

* * *

George W. Mead, president of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., and Harry H. Curtis, sales manager, have been visiting New York in the interest of their organization.

* * *

George K. Gibson, sales manager of the Mosinee Paper Mills Company, of Mosinee, Wis., has been visiting his many friends in the New York paper industry.

* * *

George W. Sisson, Jr., president of the Racquette River Paper Company, and George E. Williamson, of the Strathmore Paper Company, attended the annual meeting of the National Industrial Conference Board at the Hotel Astor, New York, last week.

* * *

R. H. Laftman, sales manager of the Bogalusa Paper Company, Bogalusa, La., is in town this week.

* * *

A. R. Graustein, president, and J. L. Fearing, vice president, of the International Paper Company; G. Frank Steele and W. N. Hurlbut, were among the returning passengers from Europe recently.

* * *

The Oxford Paper Company, now at 200 Fifth avenue, has leased from the New York Central Railroad Company half of the twenty-third floor in the tower of the New York Central Building, now under construction on Park avenue between 45th and 46th streets, for executive and sales offices for pulp and paper products and allied activities.

Saranac Co. Installs Third Machine

PLATTSBURG, N. Y., May 21, 1928.—The Saranac Pulp and Paper Company placed its third paper machine in operation on May 7 going into commercial production at once.

The machine is a cylinder tissue machine triming 67½ inches and is driven by a sectional electric drive. A novel feature in this installation is the placing of the stuff chests on the same floor level as the machine. The stock at 3 to 4 per cent is pumped from beater to chests through a trash pump and no basement is used.

The output of the machine is sold through the F. H. Von Ullrich Paper Company, 200 Fifth avenue, New York city and the machine started with two months business booked.

Boston Paper Market Unchanged

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 21, 1928.—Conditions in paper and paper stock are largely unaltered from those of a week ago. A dealer in old papers and rags says that "there is not very much doing, with things moving steadily, but quietly." The situation, however, is regarded as normal for the time of year.

French Affidavits of Values Barred

On the ground that France does not permit investigations into wholesale selling prices to be made by American Treasury representatives, Chief Justice I. F. Fischer of the United States Customs Court, in a ruling made public last week, refused to admit the affidavits of French manufacturers as evidence in the reappraisement valuation case of de Mauduit Paper Corporation, et el, versus the United States.

According to the *New York Times*, importers state that the ruling upsets a practice of admitting such affidavits which has been followed for years. It will affect many cases now pending and an appeal to the Appellate Division of the United States Customs Court was held likely. Thomas M. Lane, of Curie, Lane & Wallace, counsel for the R. J. Reynolds Tobacco Company, one of the importers interested, said that an appeal was being considered.

It was also felt in customs circles that the "retaliatory aspect of Judge Fischer's ruling may tend to induce modification by France of that country's attitude with respect to investigations of home costs" by American Treasury agents.

De Mauduit Corporation case is said to involve large amounts in duty refunds on revaluation proceedings. The merchandise imported was French cigarette papers, the issue between importers and appraisers being whether the goods should be valued on the basis of the French wholesale costs or the value in the United States as set by appraisers.

Judge Fischer in his ruling said to admit the foreign manufacturers' affidavits without giving the Treasury agents the opportunity to meet them by investigations in the country of origin was "unfair."

The text of Judge Fischer's ruling follows:

"The affidavits offered by counsel for the importers are sworn to by the affiants in France, a country which refuses our representatives the right to investigate into the allegations therein made.

"It is true that Section 501 of the present Tariff act, covering reappraisement proceedings, provides that 'affidavits of persons whose attendance cannot reasonably be had may be considered in evidence.'

"As we read that language the use of the optional word 'may' rather than the mandatory verb 'shall' or 'will' was intended to rest the question of such admissibility within the sound discussion of this court.

"Since I believe that it is unfair to admit these affidavits when the opposite party is denied an opportunity to examine into and meet the allegations therein made, I therefore exclude them and direct that all reference thereto and testimony based thereon be expunged from the record."

Peter Stryker Servis Dead

The death is announced at Elizabeth, N. J., on Friday, May 18, of Peter S. Servis, who for forty years was sales manager for D. S. Walton & Co., of New York City. Mr. Servis had been connected with the firm for over fifty years and had a wide acquaintance in the trade. He had many friends whose respect and loyalty testified to his high character and reputation for square dealing.

Mr. Servis resided at Elizabeth, N. J., where he was active in Building and Loan circles. He leaves a widow, a son, Walter W. Servis, and a daughter who is the wife of Lieutenant Commander Arthur S. Dysart.

Buys Sherwood Paper & Twine Co.

[FROM OUR REGULAR CORRESPONDENT]

BUFFALO, N. Y., May 21, 1928.—The Sherwood Paper and Twine Company, 439 Ellicott street of this city has been purchased by the Barre & Howell Paper Corporation.

Liquid EBG Chlorine

KALAMAZOO

Parchment Stock *and* EBG Liquid Chlorine

THE Kalamazoo Vegetable Parchment Company produces a superior grade of parchment stock. It is used from the Atlantic to the Pacific, the country over to protect a variety of products and add to their invitingness.

This company uses E B G Liquid Chlorine to contribute to the quality of its paper. E B G Liquid Chlorine is equally satisfactory for bleaching every paper stock. And E B G service may be utilized to keep bleaching operations running smoothly and efficiently.

Inquiries from mills which seek every advantage from their bleaching processes are invited.

Electro Bleaching Gas Co.

PIONEER MANUFACTURERS of LIQUID CHLORINE

Plants: NIAGARA FALLS, N.Y.

Main office: 9 East 41st Street, New York

E B G SERVICE

includes abundant production facilities and container equipment, of course; expert engineering counsel in the use of Liquid Chlorine which would naturally be expected of the pioneer manufacturer. But beyond these a service which is much more comprehensive than the usual conception. Investigation will reveal the significance of this.

KALAMAZOO

Permanent Stock and

Liquid Chlorine

THE Kalamazoo Vegetable Parchment Company produces a superior grade of parchment stock for use from the Atlantic to the Pacific. Its constant aim is success of products and satisfaction to customers.

This company uses E B G Liquid Chlorine to maintain the quality of its paper. E B G liquid Chlorine is equally satisfactory for bleaching every pulp stock. And E B G service may be utilized to keep bleaching operations running smoothly and efficiently.

Paper mills which seek every advantage from their bleaching processes are invited

Electro Bleaching Gas Co.

PIONEER MANUFACTURERS OF LIQUID CHLORINE

Niagara Falls, N. Y.

Monadnock Block, Chicago, Ill.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Everett, Mass.—The Stone & Forsyth Company, 67 Kingston street, Boston, paper products, has completed plans for a new two-story brick and steel addition to its plant at Everett, to cost about $45,000, and will proceed with work at an early date. General contract has been let to the Blake & Pope Company, 38 Chauncy street, Boston.

Adams, Mass.—The Eaton Paper Company, recently organized by officials of the Eaton, Crane & Pike Company, Pittsfield, Mass., as a subsidiary concern, is making ready for early occupancy of the former local mill of the Berkshire Paper Company, recently acquired from Henry J. Guild, Cambridge, Mass., who secured the property at a recent public sale. The new owner will remodel the mill and make a number of improvements, including certain modernization of present equipment, and installation of new equipment. The plant will be given over to the production of fine writing papers. The parent company is disposing of a note issue of $1,000,000, a portion of the proceeds to be diverted for operations of the Eaton Paper Company. W. H. Eaton is president of both organizations.

Skaneattles, N. Y.—The Draper Paper Mills, Inc., recently organized by Howard N. Francis, and V. M. McLaughlin, 430 University Road, Syracuse, N. Y., is reported planning the operation of a local mill, for which plans will be consummated at an early date.

Bridgeport, Pa.—The Diamond State Fibre Company is arranging an expansion and improvement program at its local mill, to include the construction of new buildings and installation of additional equipment. It is proposed to concentrate production at the local plant, and in the near future the branch mill at Elsmere, Del., will be closed down and equipment from that plant removed to the new units to be built at Bridgeport, with installation of additional equipment for increased output. The plant at Elsmere has been giving employment to about 150 operatives, and it is understood that a good portion of this quota will remove to the new location effective with the closing of the Elsmere mill now anticipated within five to six months.

Appleton, Wis.—The Appleton Coated Paper Company, 200 North Meade street, is arranging for completion of plans about the first week in June, for its proposed new mill addition and proposes to ask bids on general contract closely following. The new unit is reported to cost close to $125,000, with equipment. Lockwood, Greene & Company, 400 North Michigan avenue, Chicago, are architects and engineers.

Waterloo, N. Y.—The Waterloo Folding Box Company, Inc., care of Royal S. Spear, 200 West Garden street, Rome, N. Y., recently organized by Mr. Spear and associates, is said to have plans under way for early operation of local plant for manufacture of paper boxes and containers. Elmer E. Baker, 411 East Main street, Waterloo, is also interested in new company.

Seattle, Wash.—The Keystone Paper Box Company has leased an entire floor in a new two-story mill-type factory, to be constructed on Eighth avenue, North, near Harrison street, 120 x 120 feet, and plans for installation of new plant as soon as structure is ready for occupancy. Charles Haynes, Mehlhorn Building, is architect.

Philadelphia, Pa.—The Philadelphia Fibre Box Mill, Vandalia street near Taska street, has completed plans for construction of a new plant unit, to cost about $35,000 with equipment. A portion of structure will be used for storage and distributing service. General contract for building has been let to L. Rosengarten, Otis Building.

Chicago, Ill.—In connection with its proposed mill expansion, recently announced, the Container Corporation of America, 111 West Washington street, manufacturer of corrugated boxes and containers, will invest close to $1,000,000 in its plant instead of a smaller amount previously noted. The new unit will adjoin present plant on the east. An architect will soon be selected to prepare detailed plans at an early date, and completion is scheduled within nine to twelve months. Walter Paepcke is president.

Brooklyn, N. Y.—The Paranoid Paper Products, Inc., care of Frank R. Bruce, 61 Broadway, New York, representative, recently organized with capital of 100 shares of stock, no par value, is said to be arranging for early operation of local plant for manufacture of line of paper products.

Cincinnati, Ohio—The Globe Folding Box Company, Mitchell avenue and line of Baltimore & Ohio Railroad, has work under way on extensions and improvements in factory for increased production, estimated to cost about $25,000, with equipment. S. Hannaford & Son, Cincinnati, are architects.

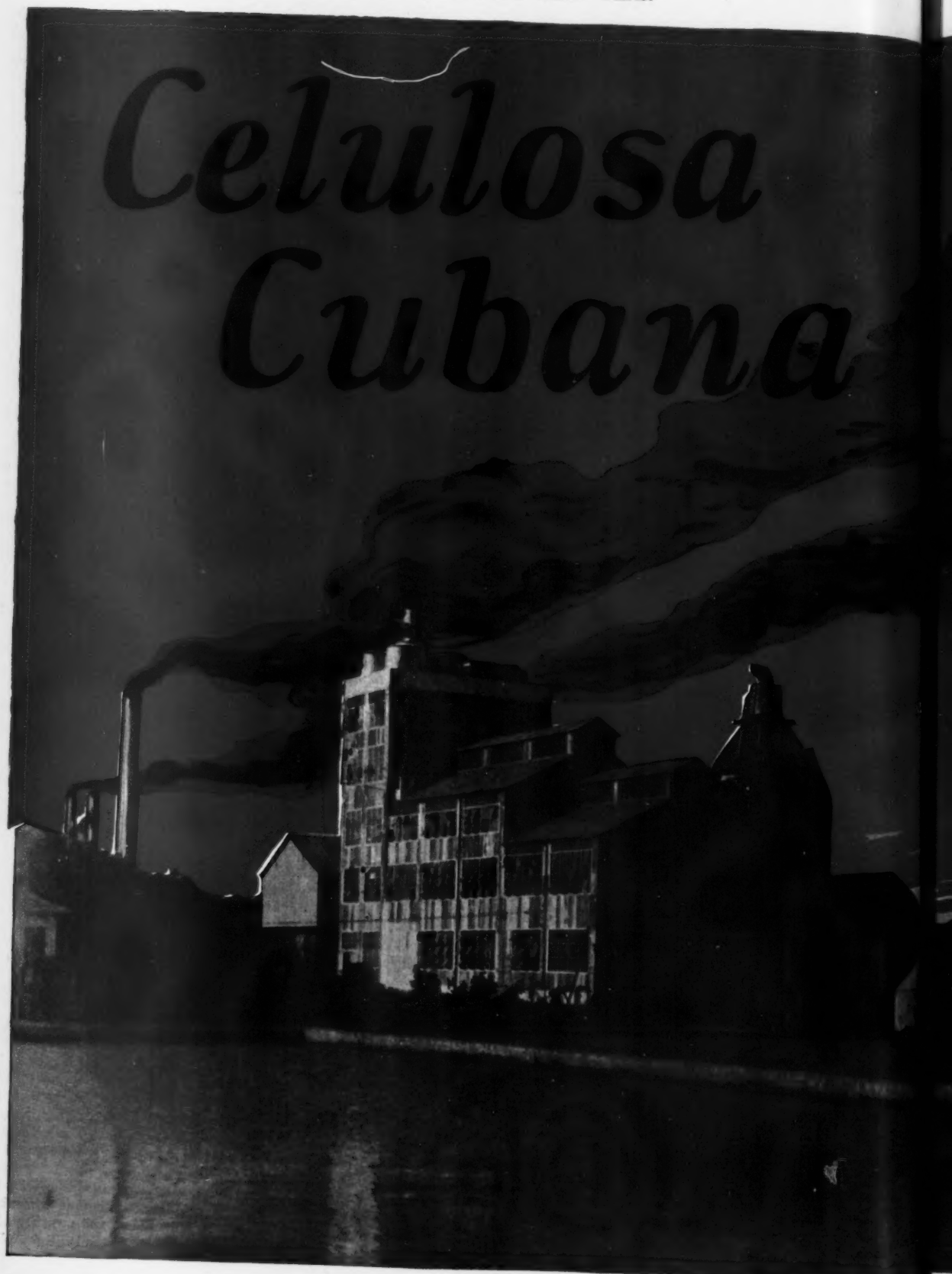
Galveston, Tex.—The Galveston Paper Box and Novelty Company, care of Joseph Swift, 1602 Twenty-fifth street, recently formed by Mr. Swift and associates, is planning operation of local plant for manufacture of a line of paper containers, folding boxes, etc.

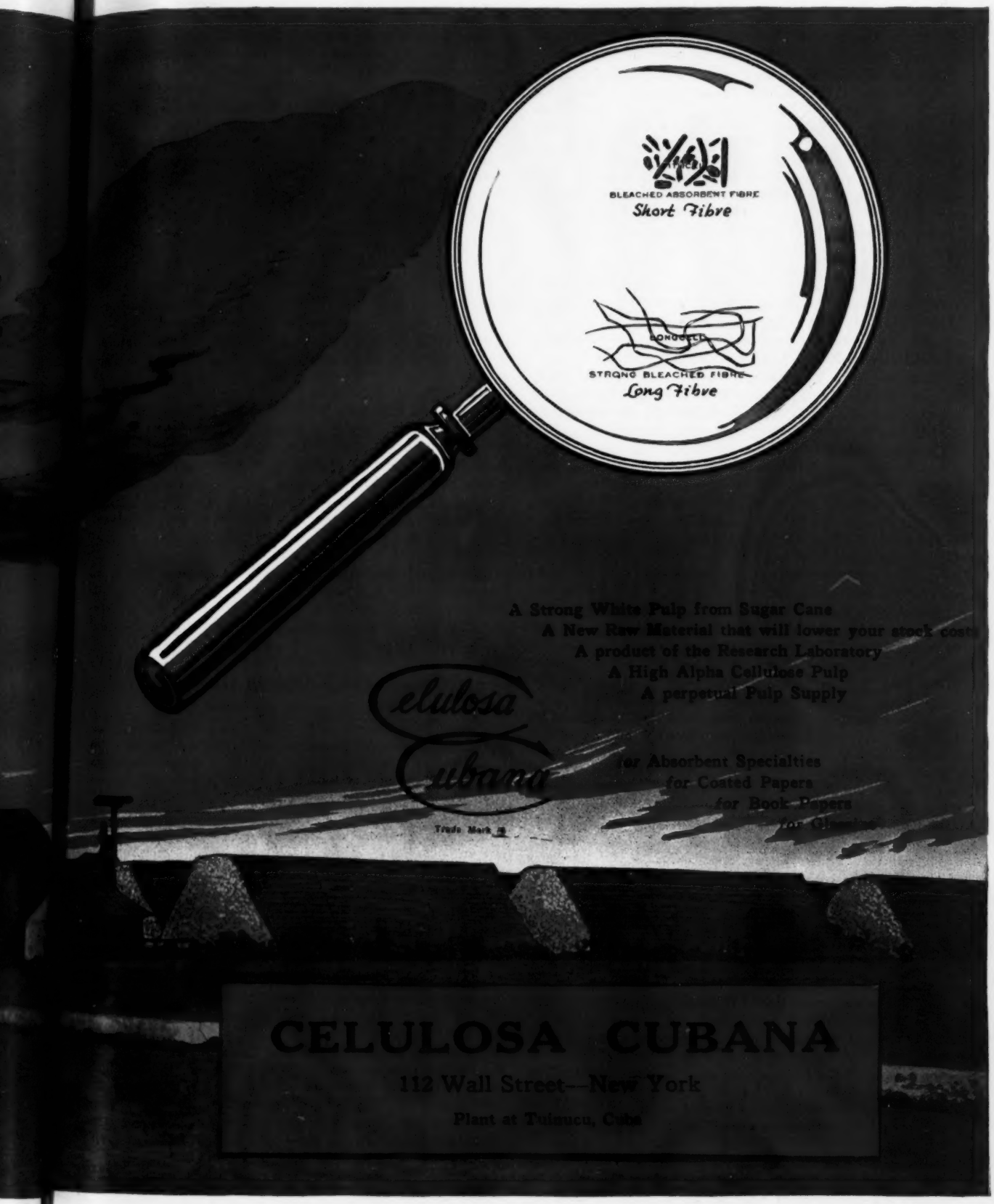
Ridgefield Park, N. J.—Fire, May 10, damaged a portion of the storage department at the plant of the Continental Paper Company, including building and stock. An official estimate of loss has not been made. It is proposed to rebuild.

Brooklyn, N. Y.—The Universal Folding Box Company, 148 39th street, has leased additional space in the Bush Terminal, comprising a portion of floor No. 3, in building No. 19, and will use for expansion.

New York, N. Y.—Jordan, Fischer Company, Inc., recently organized by Robert E. Jordan, C. Lawrence Fischer and associates, represented by Edgar R. Hollenbeck, 475 Fifth avenue, New York, will operate a local plant for the manufacture of paper boxes of various kinds, including decorative containers.

Toronto, Ont.—The Hinde & Dauch Paper Company of Canada, Ltd., an interest of the Hinde & Dauch Paper Company, Sandusky, Ohio, has arranged for financing in an amount of $1,500,000 in bonds, a portion of the fund to be used for general expansion. The company has recently had work in progress on a new mill at Trenton, Ont., and will develop this unit to maximum capacity. It has recently acquired the plants and property of the Thompson & Norris Company of Canada, Ltd., and will consolidate


Celulosa
Cubana


BLEACHED ABSORBENT FIBRE
Short Fibre
STRONG BLEACHED FIBRE
Long Fibre
A Strong White Pulp from Sugar Cane
A New Raw Material that will lower your stock cost
A product of the Research Laboratory
A High Alpha Cellulose Pulp
A perpetual Pulp Supply
Celulosa Cubana
Trade Mark
CELULOSA CUBANA
112 Wall Street—New York
Plant at Tuinucu, Cuba

with its organization; the latter development follows the acquisition of the Thompson & Norris Company, Brooklyn, N. Y., by the parent organzation. Sidney Frohman heads the company.

Cornwall, Ont.—The Howard Smith Paper Mills, Ltd., recently organized to take over and expand company of same name with mills at Cornwall, Crabtree Mills, Gaspe and Beauharnois, Que., is disposing of a bond issue of $7,000,000, a considerable portion of the proceeds to be used for general financing and extensions. Company has recently completed a new mill for production of soda pulp, and will develop to maximum output. Production will be continued along lines as heretofore, including bond, book and writing papers. C. Howard Smith is president.

New Brunswick, N. J.—The New Brunswick Paper Company has been incorporated with capital of $100,000, to manufacture and deal in paper goods. The incorporators are Joseph Fertig, Aaron Tabak and Louis L. Hendler, 344 George street, New Brunswick. Last noted is representative.

New York, N. Y.—The Japan Paper Company, 109 East 31st street, a New Jersey corporation, has arranged for an increase in capital from $250,000 to $500,000, for general expansion.

Norristown, Pa.—The Rosrol Company, care of Howard E. Lynch, Jr., Dover, Del., representative, has been chartered under Delaware laws with capital of $100,000, to manufacture writing papers, blotting papers and other paper goods.

Galveston, Tex.—The Galveston Paper Box and Novelty Company has been incorporated by Joseph Swift, 1602 25th street, Galveston, Tex., and associates, to manufacture and deal in paper boxes and containers. It is proposed to operate a local plant.

Brooklyn, N. Y.—The United Container Corporation has been incorporated with capital of $20,000, to manufacture paperboard and other containers. The incorporators are Samuel and Abraham Miller, and Herman Axelrod, 26 Court street.

Jersey City, N. J.—The Union Paper Company has been incorporated with capital of $10,000, to manufacture and deal in paper goods. The incorporators are Samuel E. Barrison, Nathan Bodner and Morris G. Fredman, 591 Summit avenue, Jersey City. Last noted is representative.

Seattle, Wash.—The Industrial Department, Seattle Chamber of Commerce, is in contact with a company, name temporarily withheld, which purposes to construct and operate a plant in the city for the manufacture of chemical products for the paper pulp industry. Negotiations are under way for suitable site and it is said that project will mature at early date, with estimated cost placed at more than $500,000.

Bathurst, N. B.—The International Paper Company is arranging for an expansion program at its local mill, to include the installation of two news print machines and auxiliary equipment. The entire project is reported to cost more than $2,000,000. Headquarters of the company are at 100 East 42nd street, New York.

Vancouver, B. C.—Charles Maravec, 2535 Seventh avenue, West, Vancouver, is at the head of a project to construct and operate a pulp mill on Poplar Island, B. C. It is proposed to organize a company to carry out the enterprise, which is estimated to cost more than $400,000. It is understood that a site has been selected for the mill.

Sturgeon Fall, Ont.—The mill and property of the Spanish River Pulp and Paper Mills, Ltd., were damaged by flood, May 8, through the collapse of a dam at Martin Lake. The plant was flooded with about 19 inches of water with damage to machinery; estimated amount of loss has not been announced. It is proposed to recondition the plant at an early date.

Wilmington, Del.—The Pusey & Jones Corporation, manufacturer of paper-making machinery, is carrying out an expansion and improvement program at its plant, to cost approximately $350,000. Work will include installation of additional equipment in machine shop and foundry, and construction of new one-story forge shop and two-story woodworking plant. Work on last two noted structures will soon be placed in progress.

New York, N. Y.—The Tioga Envelope Company, Inc., has been incorporated with capital of $15,000, to manufacture and deal in envelopes and other paper products. The incorporators are E. Wagner and Albert Adams. The company is represented by Morris and Samuel Meyers, Broadway and Forty-second street, New York.

Providence, R. I.—The Lorraine Envelope Company has filed notice of organization to operate a local plant. Headquarters will be located at 109 Friendship street. F. G. Spaulding, 159 Franklin avenue, Cranston, R. I., is head.

Baltimore, Md.—The Paper Products Company, Calvert Building, has been organized to manufacture and deal in paper goods. Huntington Cairns and John A. Avirett head the company.

New York, N. Y.—The Tissue Sales Company, Inc., has been incorporated with capital of $10,000, to manufacture and deal in tissue and other paper goods. The company is headed by Meyer and Harold Meyersohn, 1082 President street, Brooklyn.

Los Angeles, Cal.—The Jeffries Banknote Company has been incorporated with a capital of $100,000, to manufacture and deal in high-grade paper stocks. The incorporators are A. H. and W. P. Jeffries, and F. J. Wadley, all of Los Angeles.

New York, N. Y.—The Arcturus Paper Corporation has been incorporated with capital of $10,000, to manufacture and deal in paper goods. The incorporators are Joseph P. Shea and Henry Klink, 551 Fifth avenue, New York. The last noted is representative.

Chicago, Ill.—The Universal Paper Company, 333 South Desplaines street, has been incorporated with capital of 2,000 shares of stock, no par value, to manufacture and deal in paper products. The incorporators are H. F. Tenney, J. E. O'Hora and G. M. Sundheim.

Brown-Bridge Mills to Start Soon

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 21, 1928.—The Brown-Bridge Mills Company expects to start production within the next week or so, it is reported from Troy where the mill is under construction, although the plant will be run in a limited way and the production will be partial.

The company, which will manufacture gummed products, is rebuilding and remodeling the Hayner distillery buildings, several in number on East Water street in Troy, 20 miles north of Dayton, in Miami county.

A crew of workmen has been engaged during the past two months in repairing the buildings and installing machinery and it is now stated that most of the machinery is in place, which will insure the beginning of production in a comparatively short time.

The complete operation, it is stated, will await the receipt and installation of some machinery which is being built especially for the concern. This machinery will not be ready before the first of next month.

Officers of the company declare the prospects for business for the new concern are excellent, and every effort is being made to rush the completion of the plant in order that production may be started to fill orders already booked by the sales force.

The members of the company, who include Middletown men and several from Troy who have been identified with the gummed paper business, are anxious to begin operations at the earliest possible date.

LOOK SOUTH

BASTROP, Louisiana: "Gator-Hide Kraft" four big machines, and Dilts New Type beating engines.

CAMDEN, Arkansas: (International Paper Co.) Two 212" Kraft Machines, and Dilts New Type Beaters.

HODGE, Louisiana: (Advance Bag Company,) widest machine in the United States, 242" on kraft, and Dilts New Type Beaters.

TUSCALOOSA, Alabama: (E-Z Opener Bag Co.) 230" Kraft Machine and Dilts New Type Beaters.

"Your Paper is made in your Beaters"

Dilts

MACHINE WORKS, Inc. FULTON, N.Y.

EXPORT OFFICE ~15 PARK ROW~ NEW YORK CITY

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending March 31, and for the Three Months Ending March 31, 1928, as Compared with Corresponding Months of Previous Year

IMPORTS—PAPER

	March 1927 Quantity	March 1927 Value	March 1928 Quantity	March 1928 Value	Three Months Ending March 31 1927 Quantity	Three Months Ending March 31 1927 Value	Three Months Ending March 31 1928 Quantity	Three Months Ending March 31 1928 Value
Paper and manufactures (total)	.....	$12,237,774	.....	$12,703,930	.....	$34,614,088	.....	$38,461,494
Printing paper—								
Standard news print.....lbs...free	333,063,429	10,949,271	345,790,961	11,235,421	933,686,152	30,892,213	1,046,674,865	34,191,501
Imported from—								
Finland .....lbs.	6,406,054	179,825	6,033,193	150,309	788,264	49,202	347,330	19,358
Germany .....lbs.	1,934,471	61,817	974,088	27,304	3,963,595	122,679	4,129,817	112,229
Norway .....lbs.	3,148,632	82,173	3,116,206	84,351	10,219,372	275,233	5,193,181	134,091
Sweden .....lbs.	17,845,416	495,349	11,178,247	307,136	42,970,971	1,240,635	32,695,549	883,868
Canada .....lbs.	303,728,856	10,130,107	324,422,500	10,664,398	844,870,857	28,248,765	959,169,550	31,684,910
Newfoundland and Labrador.....lbs.	.....	.....	.....	.....	14,440,152	506,272	26,862,548	870,197
Other countries .....lbs.	.....	.....	66,727	1,923	172,358	5,215	653,141	18,460
All other, n. e. s.....lbs...dut.	603,346	28,694	570,403	24,142	2,413,891	117,558	2,157,802	98,244
Grease-proof and waterproof paper...lbs...dut.	127,442	19,567	96,892	22,114	452,607	77,561	216,766	46,504
Kraft wrapping paper .....lbs...dut.	799,466	35,560	602,881	25,726	1,877,864	85,318	1,705,484	72,019
All other wrapping paper .....lbs...dut.	673,654	33,684	1,637,386	31,372	1,706,179	82,062	4,938,775	103,426
Writing, letter, drawing, etc., papers.lbs...dut.	286,026	62,459	227,386	55,462	651,659	152,205	549,709	138,604
Surface coated paper .....lbs...dut.	143,682	60,692	165,836	83,389	489,509	184,157	548,305	255,036
Tissue, copying, etc., paper.....lbs...dut.	269,502	150,444	282,367	180,898	770,522	427,398	830,059	517,713
Paper boards, n. e. s.—								
Pulp boards in rolls .....lbs...dut.	5,366,002	132,513	5,736,911	130,008	13,375,947	330,143	14,018,649	313,642
Paper boards, pulp board, and card-board .....lbs...dut.	.....	.....	1,539,056	35,145	.....	.....	6,762,309	146,138
Leather board, test, and wall board.lbs...dut.	.....	101,246	45,056	1,844	.....	269,616	223,366	6,980
Cigarette paper, cigarette books, and covers .....lbs...dut.	654,831	183,906	980,157	263,533	2,065,647	604,560	3,260,274	896,219
Hanging paper (wall paper).....lbs...dut.	413,153	75,510	283,073	77,707	998,548	219,097	833,733	209,520
Duplex decalcomania, not printed....lbs...free	50,912	11,511	24,036	5,638	154,398	36,790	137,693	32,337
Paper boxes .....lbs...dut.	127,552	89,951	219,124	155,193	470,844	302,038	686,615	437,715
Pulp or papier-mâché and manufac-tures, n. e. s.....lbs...dut.	198,942	26,001	.....	18,061	773,717	119,220	.....	130,645
All other paper and manufactures.....dut.	.....	276,765	.....	358,277	.....	714,152	.....	865,230

WOOD PULP

Mechanically ground wood pulp.....tons..free	20,027	580,721	18,861	455,967	47,796	1,388,806	56,569	1,390,468
Sulphite wood pulp .....tons	65,528	4,406,261	53,995	3,295,640	223,510	14,671,659	242,718	14,188,290
Unbleached .....tons..free	36,973	2,100,540	31,595	1,568,915	149,890	8,770,735	168,771	8,572,873
Bleached .....tons..free	28,555	2,305,721	22,400	1,726,725	73,260	5,900,924	73,947	5,615,417
Imported from—								
Finland .....tons	8,079	406,051	4,609	186,850	20,261	1,092,949	24,401	1,001,078
Germany .....tons	5,883	436,929	4,365	274,635	16,324	1,187,900	12,821	868,722
Norway .....tons	6,546	512,579	6,438	420,423	17,793	1,375,607	18,159	1,234,026
Sweden .....tons	13,043	838,738	2,013	105,264	79,711	4,947,303	88,172	4,787,903
Canada .....tons	27,786	1,938,162	32,604	2,096,253	78,948	5,398,184	85,580	5,572,158
Other countries .....tons	4,191	273,802	3,966	212,215	10,473	669,716	13,585	724,403
Sulphate wood pulp, unbleached (Kraft pulp) .....tons..free	22,167	1,399,956	20,180	1,167,617	75,169	4,726,047	83,613	4,688,797
Imported from—								
Finland	735	40,695	3,889	173,533	1,681	93,927	6,243	275,653
Norway	1,045	63,300	1,744	91,293	2,616	158,968	3,472	177,698
Sweden	8,042	482,739	828	40,688	38,003	2,324,052	38,334	1,983,809
Canada	12,345	813,222	13,261	840,151	32,649	2,136,687	34,910	2,221,099
Other countries	.....	.....	458	21,952	220	12,413	654	30,538
Sulphate wood pulp, bleached.....tons..free	143	9,373	247	15,435	6,333	416,427	3,730	221,084
Other pulp .....tons..free	68	7,912	114	8,636	615	45,697	1,501	108,719

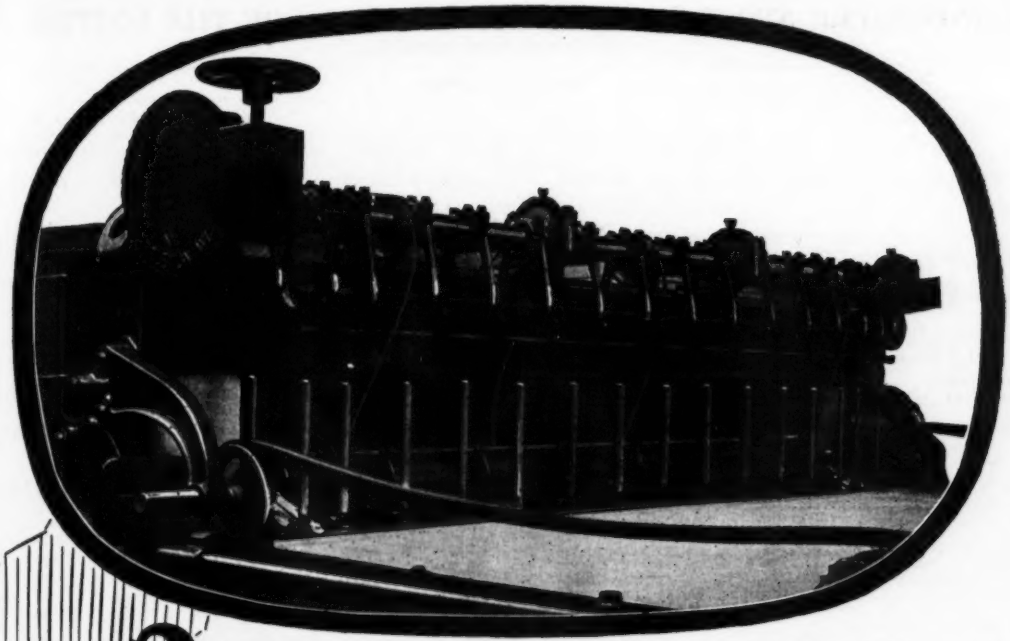
CRUDE PAPER STOCK

Rags for paper stock.....lbs...free	37,507,568	739,442	30,756,992	583,982	98,330,727	2,083,526	100,239,097	1,896,861
Waste bagging, waste paper, etc.....lbs...free	6,651,593	93,803	13,951,310	171,376	18,870,639	275,633	31,308,705	401,247
Old rope and all other paper stock...lbs...free	4,323,118	178,514	4,608,412	154,160	13,136,560	422,787	13,676,507	386,609

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS

Colors, dyes, stains, color acids, and color bases, n. e. s.....lbs...dut.	447,735	517,551	623,826	667,893	1,890,569	2,157,071	1,626,068	1,763,302
Imported from—								
Belgium .....lbs.	14,624	15,908	16,422	16,383	60,357	87,380	32,139	33,857
France .....lbs.	16,664	20,115	5,500	6,745	36,153	47,623	25,869	34,819
Germany .....lbs.	281,797	322,051	448,032	436,365	1,190,135	1,296,044	1,027,133	1,019,021
Italy .....lbs.	5,325	6,782	3,491	5,439	19,142	19,128	22,580	20,458
Switzerland .....lbs.	100,148	122,940	119,418	169,394	499,792	618,252	408,850	525,697
United Kingdom .....lbs.	26,262	23,909	19,833	20,405	57,705	57,185	35,939	34,710
Other countries .....lbs.	2,915	5,846	11,130	13,162	27,285	31,459	73,558	94,740
Casein or lactarene.....lbs...dut.	2,182,962	247,800	3,159,458	421,053	7,707,657	887,897	8,595,026	1,188,957
Kaolin, china, and paper clay.....tons..dut.	18,007	175,053	23,445	242,090	68,703	686,542	59,832	595,607

(*Continued on page 48*)



When You Look Into *Operating Costs*

Do you find there are items that can be eliminated—that can be turned into profits instead of costs? Some of them—wires do not last long enough; too many shutdowns from breaks; paper not uniform in caliper; too many lumps and foam spots; the entire width of the wire is not being used for formation purposes.

Every one of these operating costs can be reduced with the Voith Inlet, regardless of whether your paper machines are Fourdrinier, Harper or Yankee. The Voith Inlet is equipment designed first of all to cut operation costs on these very items.

With the Voith Inlet—

Wires will last 10% to 15% longer

Fewer shutdowns of machines from breaks
Paper will be uniform in caliper
Help eliminate lumps and foam spots
Use all the wire surface for formation purposes

The repeat orders from mills prove that the Voith Inlet is accepted as cost-cutting equipment. We'll send you upon request complete information on the Voith Inlet. Write for it today.

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PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(*Continued from page 46*)

EXPORTS—PAPER

	March 1927 Quantity	March 1927 Value	March 1928 Quantity	March 1928 Value	Three Months Ending March 31 1927 Quantity	Three Months Ending March 31 1927 Value	Three Months Ending March 31 1928 Quantity	Three Months Ending March 31 1928 Value
Paper and manufactures (total)	.....	$2,549,897	.....	$2,740,820	.....	$6,818,639	.....	$7,552,056
Printing paper—								
News print paper ....lbs.	3,296,466	153,287	1,707,788	63,014	7,764,160	358,358	6,300,824	258,603
Exported to—								
Canada ....lbs.	572,372	33,828	27,607	1,283	788,264	49,202	347,330	19,358
Central America ....lbs.	40,818	2,229	92,723	3,293	150,639	7,650	280,253	10,146
Mexico ....lbs.	122,437	4,359	77,033	2,292	208,270	8,923	118,096	4,276
Cuba ....lbs.	704,135	32,357	653,561	23,361	1,106,234	51,337	1,207,411	48,261
South America ....lbs.	462,436	20,072	345,075	13,560	1,971,687	83,292	1,082,368	41,917
China, Hong Kong, and Kwantung..lbs.	93,000	2,340	39,945	1,598	286,120	16,651	192,291	9,143
Japan ....lbs.	.....	.....	.....	.....	21,955	932	15,093	681
Philippine Islands ....lbs.	1,015,341	40,224	420,912	15,608	2,754,338	110,925	2,824,234	114,011
Other countries ....lbs.	285,927	17,878	50,932	2,019	476,653	29,446	233,748	10,796
Book paper, not coated....lbs.	982,965	91,931	1,581,957	129,625	4,005,680	337,245	4,881,677	388,491
Exported to—								
Europe ....lbs.	56,268	5,769	10,379	2,676	175,732	18,002	115,282	10,939
Canada ....lbs.	208,691	19,252	445,532	30,035	848,337	72,159	1,238,376	87,545
Central America ....lbs.	17,284	1,785	41,421	3,482	89,181	8,745	86,669	8,038
Mexico ....lbs.	40,477	3,629	60,644	10,374	128,035	13,403	150,955	20,061
Cuba ....lbs.	108,709	9,979	646,984	48,880	450,958	39,403	1,197,933	90,255
Argentina ....lbs.	155,225	12,384	63,791	5,013	337,247	26,729	118,654	12,115
Other South America ....lbs.	79,728	6,393	73,772	6,579	876,777	61,334	310,033	25,968
China, Hong Kong, and Kwantung..lbs.	86,068	9,185	16,065	2,434	259,316	23,087	768,726	55,181
Philippine Islands ....lbs.	80,663	7,592	70,253	7,274	344,366	27,995	312,586	24,196
Australia ....lbs.	59,745	8,189	33,571	3,849	263,054	25,455	193,579	21,609
Other countries ....lbs.	90,107	7,774	119,545	9,029	232,677	20,933	388,884	32,562
Cover paper ....lbs.	149,151	25,915	196,341	33,158	379,217	67,202	497,082	83,178
Greaseproof and waterproof paper....lbs.	179,545	27,522	318,296	43,666	463,460	65,470	744,093	101,905
Wrapping paper ....lbs.	2,807,035	194,751	2,688,974	200,064	8,288,796	579,097	9,837,971	739,520
Surface-coated paper ....lbs.	1,008,742	118,146	774,156	95,183	2,090,704	255,768	1,753,465	214,182
Tissue and crêpe paper ....lbs.	309,298	78,636	623,458	111,918	999,393	223,601	1,412,723	293,006
Toilet paper ....lbs.	568,850	68,835	571,180	59,354	1,268,852	161,584	1,291,318	143,222
Paper towels and napkins ....lbs.	170,968	27,473	325,465	37,263	453,815	69,203	767,078	94,431
Box board ....lbs.	3,611,274	118,457	2,514,566	79,523	12,494,687	384,987	10,417,372	324,520
Bristols and bristol board ....lbs.	176,828	24,316	169,052	18,824	721,792	51,743	474,661	44,492
Other paper board and straw board....lbs.	3,665,154	179,192	3,709,002	179,805	9,410,544	470,803	9,703,095	477,775
Sheathing and building paper....lbs.	1,419,138	54,030	1,078,202	40,626	3,538,852	147,022	2,984,310	112,841
Wall board of paper or pulp....sq. ft.	3,119,560	115,705	1,724,922	123,375	11,458,200	386,936	8,345,256	351,319
Blotting paper ....lbs.	275,490	32,211	375,200	42,659	852,475	96,872	1,050,714	125,328
Filing folders, index cards, and other office forms ....lbs.	114,718	29,453	162,714	57,245	346,337	84,175	359,190	129,437
Papeteries (fancy writing paper)....lbs.	50,245	12,940	52,369	13,413	121,954	33,109	199,310	37,076
Other writing paper ....lbs.	958,131	199,810	2,377,505	257,311	2,487,100	461,639	5,309,537	652,046
Paper hangings (wall paper) ....yds.	3,927,403	82,246	4,175,600	95,345	10,711,652	216,541	14,284,650	268,525
Paper bags ....lbs.	1,743,593	154,495	763,087	75,095	4,162,489	356,380	2,174,132	200,275
Boxes and cartons ....lbs.	1,747,190	121,237	2,161,437	150,875	4,672,837	316,230	6,076,597	432,900
Envelopes ....lbs.	218,032	35,082	253,537	41,011	680,532	112,467	617,671	102,338
Vulcanized fiber sheets, strips, rods, and tubes ....lbs.	389,576	125,365	404,648	111,619	1,125,159	354,790	1,116,058	317,661
Manufactures of vulcanized and indurated fiber ....lbs.	54,876	15,010	68,891	17,084	113,659	31,475	182,942	41,536
Cash register and adding machine paper...lbs.	146,024	15,085	148,418	16,803	394,123	43,998	515,886	56,416
Other paper and paper products	.....	448,767	.....	646,962	.....	1,151,947	.....	1,561,033

WOOD PULP AND PAPER STOCK

Sulphite wood pulp ....tons	1,770	108,853	2,031	136,048	4,873	299,202	4,158	252,244
Soda wood pulp ....tons	51	3,743	40	3,008	318	28,016	438	36,217
Other wood pulp ....tons	39	1,475	532	22,232	526	20,373	728	33,490
Rags and other paper stock....lbs.	17,067,965	235,228	19,246,704	303,949	48,547,284	672,892	54,222,396	938,367

PAPER AND PULP MILL MACHINERY

Paper and pulp mill machinery....lbs.	1,410,323	298,462	746,718	262,506	7,335,684	1,457,528	4,406,740	950,928

Sale of Paper Mill Fails for Third Time

DENVER, Colo., May 18, 1928.—The Colorado Pulp and Paper Company's plant was placed on the auction block for the third time by Special Master George W. Beck, but in view of the fact that no bid less than $300,000 accompanied by a certified check for $25,000 would be received, there was no sale.

In this connection, it is explained that the property is worth every cent of the price, but due to the legal entanglements between Charles B. Myers and Joseph Buchhlater, no one is willing to risk purchasing the property until the court settles the squabble. This is likely to be done on or about October 1, and in the meantime Mr. Beck will continue to operate the mill for the benefit of the bondholders because there is a call for the product.

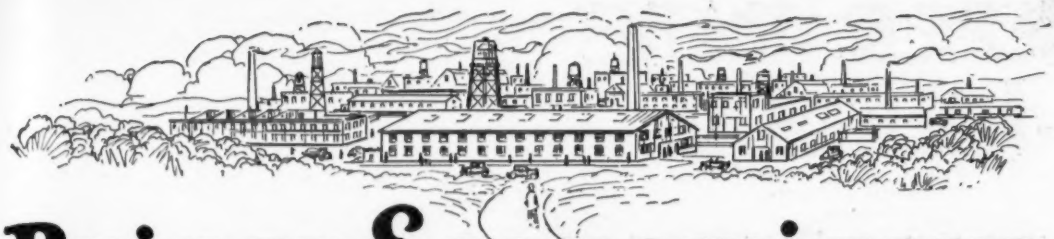
Install Record Size Machines

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 21, 1928.—Charles Walmsley & Co. (Canada) Limited are now well launched in the building of two 234 inch vacuum dryers for Price Brothers & Co., Limited, largest vacuum chambers that have ever been built. It is expected that at least one of these machines will be in operation before the end of this year.

The company is now building the Kilberry Suction Couch Roll in Canada and has orders in hand for several of these.

Charles Wamsley & Co. have just completed and shipped the largest breaker beater that has ever been built in Canada. This is for the Canadian Paperboard Company Limited at Toronto. The top is 60 feet long, 19 feet wide.



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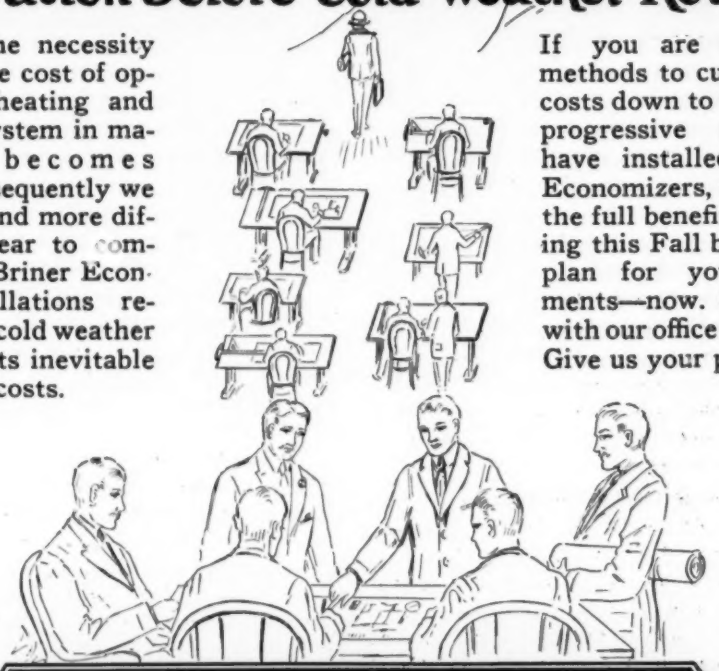

If you are considering methods to cut operating costs down to those of the progressive mills that have installed Briner Economizers, you will get the full benefit of the saving this Fall by letting us plan for your requirements—now. Get in touch with our office nearest you. Give us your problem.

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PAPER EXPORTS INCREASE

Exports of paper and paper products from the United States during March show a rise of 15 per cent in value in comparison with February and of 8 per cent in comparison with the corresponding month last year according to the Paper Division of the Department of Commerce. Shipments of book paper, wrapping paper, and boards declined to some extent as compared with the preceding month's, although the first-mentioned item was 60 per cent above exports for March, 1927.

There was a heavy rise in news print shipments compared with the preceding month, but insufficient to bring consignments of this particular class up to the level of the same month last year. Exports of writing paper, however, notwithstanding their fluctuation from month to month, continue to show an upward trend, March shipments exceeding February's by 55 per cent and those of March, 1927, by more than 100 per cent.

Exports of paper and paper products during March were valued at $2,740,820, bringing the total for the first quarter of the year up to $7,552,056, an increase of 17 per cent over the corresponding quarter in 1927. Exporters of fine papers and paper specialties during this period have been on the whole most successful in meeting competition in foreign markets. With the exception of surface-coated papers and bristols, all classes of fine papers show a substantial gain when compared with amounts shipped during the first three months of 1927.

The greatest increase was registered in shipments of writing papers, which totaled nearly 5,310,000 pounds as against 2,487,000 pounds during the corresponding period last year. Substantial increases were also recorded in shipments of book, tissue, and greaseproof papers, while among paper manufactures and specialties, exports of paper towels and napkins increased by 70 per cent, boxes and cartons by 30 per cent, cash register by 30 per cent, wall paper and hangings by 33 per cent, and papeteries and manufactures of vulcanized fiber by 60 per cent.

Board shipments, almost without exception, were smaller than during the same period in 1927, boxboards and sheathing papers having fallen off by 16 per cent, bristols by 34 per cent, and wall boards by 27 per cent. The best showing was made in shipments of miscellaneous paperboards and straw boards, which were only 3 per cent under the first quarter of 1927.

News print shipments, totaling 6,301,000 pounds, were the lowest for any corresponding three months during the past 6 years. While shipments to most countries show a decline, the heaviest losses during the past three months seem to have been registered in consignments to the South American countries, Canada, and Mexico.

Exports of paper base stocks from the United States during March were valued at $513,571, bringing the total for the quarter up to $1,341,765 as against $1,287,951 during the first three months of 1927. Shipments during the first quarter of this year comprised 24,207 tons of rags and other waste stock, valued at $938,367, 4,158 tons of sulphite pulp, valued at $252,242, 1,166 tons of other wood pulp, valued at $69,707, and 10,224 cords of pulp wood, valued at $81,449.

Imports of standard news print into the United States during March were about on a level with the preceding month and slightly in excess of those received during March, 1927. Aggregate imports of paper and paper products during this month increased by 3 per cent over the preceding month and 14 per cent over March of last year.

For the three months period ended March 31, however, imports in this class show a substantial gain, receipts of standard news print having increased by 11 per cent and other classes of paper and paper products by 15 per cent. Prominent among these increases were miscellaneous wrappings, which rose from 1,706,000 pounds to 4,939,000 pounds, pulp boards, which rose from 13,376,000 pounds to 14,019,000 pounds, and cigarette papers showing an advance from 2,066,000 pounds to 3,260,000 pounds. Imports of tissue paper, surface-coated paper, and boxes were also larger than during the corresponding quarter last year. Receipts of standard newsprint, which represent the bulk of incoming paper shipments, totaled 467,260 tons as against 416,824 tons during the first three months of 1927.

Total imports of paper and paper products for the quarter were valued at $38,461,484, of which $34,191,503 represented receipts of news print and $4,269,981 other classes of paper and board.

Imports of paper base stocks into the United States, however, underwent a heavy decline during the month of March, the value of the aggregate receipts showing a loss of 25 per cent compared with either the preceding month or with the corresponding month last year.

The three months figures, on the other hand, show only a slight reduction in these receipts compared with the same period in 1927. Imports of pulp wood declined by 15 per cent, receipts up to the end of March aggregating only 431,897 cords as against 505,734 cords in 1927. Imports of wood pulp however, increased by 7 per cent, receipts of ground wood having advanced from 47,796 tons to 56,569 tons, sulphite pulp from 223,510 tons to 242,718 tons, and unbleached sulphate (kraft) pulp from 75,169 tons to 83,613 tons. There was also a slight increase in rag imports, amounting to 2 per cent, which totaled 44,750 tons, while receipts of other classes of waste stock, including waste paper, bagging, old rope, etc., rose from 14,289 tons to 20,083 tons, or by 40 per cent.

The aggregate value of paper base stocks imported during the first quarter of 1928 amounted to only $27,338,470 as against $28,816,009 during the first three months of 1927, the fall in value of the past three months' receipts being partly due to the decline in pulpwood receipts, already mentioned, and also to the generally lower average import prices of chemical pulps and waste stock.

International Earnings Increase

The International Paper Company and subsidiaries report for quarter ended March 31, 1928, net profit of $1,657,438 after depreciation, interest and federal taxes equivalent after dividend requirements on Canadaian Hydro-Electric Corporation, Ltd., 6 per cent first preferred stock to $1.61 a share earned on 911,388 shares (par $100) of 7 per cent preferred stock outstanding at end of the quarter. This compares with net profit of $994,223, equivalent after International Paper Company 6 per cent and 7 per cent preferred dividends, to 82 cents a share on 500,000 no-par common shares outstanding at end of first quarter of 1927.

Consolidated income account for the quarter ended March 31, 1928, compares as follows:

Total revenue	$4,389,127	$3,174,580	$1,787,805
Depreciation	1,367,807	953,465	859,407
Amortization	74,729	79,512	37,409
Interest	1,169,153	1,087,380	629,281
Federal taxes	120,000	60,000	.....
Net income	$1,657,438	$994,223	$261,708
Can. H. E. preferred dividends	187,500	.....	.....
Preferred dividends	1,578,433	583,680	549,516
Common dividends	599,992	250,000	.....
Deficit	$708,487	*$160,543	$287,808

* Surplus.

Recent additions to the Canadian power properties of the company include the Ottawa and Hull Power Company, Ltd., and the Ottawa River Power Company, Ltd. The Ottawa and Hull Power Company, Ltd., owns a part of the Chaudiere power on the Ottawa River at Hull opposite Ottawa, the capital of Canada. The company has two powerhouses with a designed capacity of 44,000 hp. of which 36,600 hp. is now installed.

The Ottawa River Power Company, Ltd., owns a hydro-electric development at Bryson, Quebec, on the Ottawa River fifty miles upstream from the City of Ottawa. The power house is designed for three generators of 25,000 hp. each, of which one is now installed and another is in process of installation.

The greater part of the power generated by these plants is now being sold in Ottawa and the vicinity. The plants will be interconnected with the systems of Gatineau Power Company and of Gatineau Electric Light Company, Ltd., subsidiaries of Canadian Hydro-Electric Corporation, Ltd., which, in turn, is a subsidiary of International Paper Company.

McSweeney Bill Passes House

R. S. Kellogg, chairman of the National Forestry Program Commission states that—

"On Saturday, May 12, the McSweeney Forest Research bill (H. R. 12,878) passed the House of Representatives with two minor amendments over the form in which the companion McNary bill (S. 3556) passed the Senate on April 17. The amendments authorize an additional forest experiment station in the southern states and also one in Hawaii. There is no doubt that an agreement upon these bills will be easily reached by the Senate and the House, and there is every reason to believe that the bill in its final form will be signed by the President.

"This will complete the enactment by Congress in its entirety—more promptly than anything of the sort has yet been done in the United States—of an important piece of fundamental forestry legislaton. It is a striking evidence of the growth of effective public information and sentiment upon forest problems in this country. The National Forestry Program Committee, which sponsored the McSweeney-McNary bills and conducted the hearings thereon, is deeply grateful to the many organizations and individuals who cooperated in presenting the facts to Congress and the public.

"The passage of the Forest Research bill completes the program of fundamental national forest legislation first outlined in the Snell bill proposed by the National Forestry Program Committee in 1920, and later bearing fruit in the General Land Exchange, the Clarke-McNary and the McNary-Woodruff laws.

"The efforts of all concerned should now be directed through the Director of the Budget and Congress to the securing of gradually increasing annual appropriations under the terms of these several pieces of legislation, to the end that all national efforts in forest protection, the establishment of National Forests through land purchases, forest experiment stations and forest products investigations may be coordinated and built into a permanent program of forest production and utilization for the lasting benefit of the entire country."

Shipping Paper By Champlain Canal

FORT EDWARD, N. Y., May 21, 1928.—With navigation on the Champlain Barge Canal under way for the season shipments of paper products are beginning to be handled at the two local canal terminals Finch, Pruyn & Co., of Glens Falls, was among the first of the Upper Hudson Valley mills to take advantage of a resumption of navigation. A large consignment of newsprint from the Glens Falls mill was loaded here this week for New York City, this marking the opening of the season at the local terminal.

Local canal officials expect the present season to be the best in the history of the canal as most of the large paper mills of this section will use the water route more extensively. With operations at the mill of the International Paper Company again under way special facilities are being provided for handling larger canal shipments of both raw and finished product. The Union Bag and Paper Company of Hudson Falls is expected to become a large user of the canal. Closing down of the Union Bag company's sulphite plant and the company's decision to buy its pulp in the open market until such time as the Pacific coast pulp mill is operating, is expected to increase by a large figure the tonnage of pulp handled through the Fort Edward terminal. Pulp for the Hudson Falls mills will, it is said, be brought to Fort Edward by barge and trucked to Hudson Falls.

Hearing on 9 Point Straw

The first hearing in the case of Adrian Vuyk vs. the Collector of Customs to determine whether 0.009 straw for corrugating is dutiable as board at 10 per cent advalorem or as wrapping paper at 30 per cent advalorem, was held May 14 before the U. S. General Appraisers at New York.

Several witnesses testified that 0.009 straw for corrugating has always been dealt in and known in the trade as strawboard. And that prior to 1927 it has never been known as strawpaper.

Former Appraiser Hecht, who was in office from 1910 to 1925 testified that he has passed the product as strawboard at 5 per cent, and after the tariff law of 1922 went into effect at 10 per cent. It seems that this has been the practice wihout interruption until July 1927.

At present, all duties are being paid at 30 per cent, but under protest it was said. The next hearing will be held June 10, 1928.

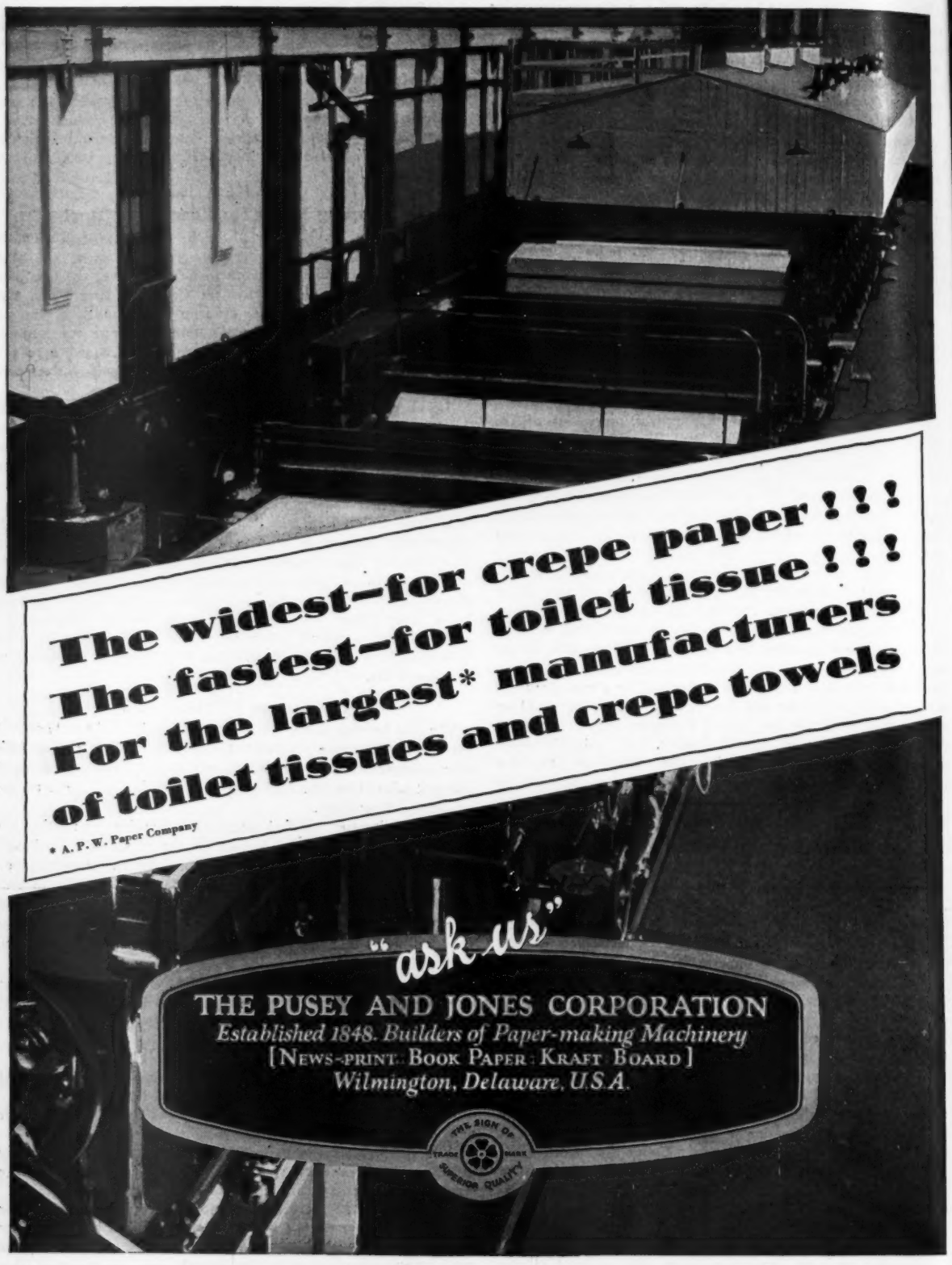
To Open New San Jose Division

Blake, Moffett & Towne have sent out invitations to the opening of their new San Jose Divisions May 18 and 19.

"This event," says the invitation, "marks the opening of our new building which has just been completed.

"You will be interested in seeing this substantial and thoroughly modern plant and note its unusual facilities for handling large stocks of paper, paper products and twines.

"We feel that no more appropriate time could be selected for our Opening than during the days of the Santa Clara County Fiesta de las Rosas when visitors to San Jose may inspect this most recent contribution to the growth and prosperity of this section."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Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Edited by
RONALD G. MACDONALD, Secretary

The Read Automatic Grinder

In a paper presented at the 1928 Annual Meeting of TAPPI, A. E. Parrett, groundwood superintendent of the Ste. Anne Paper Co., Beaupie, Que., gave a most interesting outline of the development of automatic grinders, dealing particularly with the relative merits of pressure feed and chain feed types. Among other things he mentioned that "a large mill in the Province of Quebec is operating a grinder having both feed chains and pressure feed." In this Mr. Parrett referred to the machine developed by R. E. Read, of the International Paper Co., which is now in operation in the company's mill at Three-Rivers, and for which R. E. Read was granted United States patent 1,602,211 October 5, 1926.

As it is still more or less in the experimental stage, nothing has yet been given out regarding the construction and performance of this machine; but those who are aware of its existence are awaiting with interest the publication of details as to its operation. In the meantime a description of the invention as given in the patent specifications will doubtless be of some interest.

The Two Main Objects of the Inventor

(1) To overcome the trouble due to arching in the usual type of pocket or hydraulic grinders. This he obtains by providing chains inside the pockets, which are engaged by and support the mass of wood in its advance by the pressure foot and which travel at the same speed as the mass of wood.

(2) To insure a uniform pressure of the wood against the stone when two or more pockets are employed. When all of the wood in one or a series of pockets has been ground, the feed of wood in another pocket (or series of pockets) is automatically started, and at the same time the pressure foot in the empty pocket (or pockets) is retracted to allow refilling. In this way one only of the pockets (or series of pockets) is in operation at the same time, thus insuring a uniform pressure of the wood on the stone and avoiding any danger of racing or wastage of power.

The stone (1) is mounted as usual on a horizontal shaft (2) journalled in bearings in the base (3) consisting of two end frame members (3a), connected together and held in position by cross connecting bars which are not shown. Pivotally mounted on horizontal transverse axes (4) on the outer ends of the bed frame are two open frames (5) sustaining the pockets (6) and (7) and their associated cylinders (8) and (9), the axes of which are at an angle of about 55° to the vertical.

The frames (5) meet along the vertical line (15), and are bolted together along this line of contact and bolted to the base frame along their lower edges by bolts (17a). By mounting the pockets in this manner, they can easily be disconnected and swung to each side giving ready access to the stone.

The power cylinders are equipped as usual with power pistons (8a) and (9a) provided with piston rods having connected to their lower ends pressure feet (8b) and (9b), respectively, to force the wood against the stone, pressure fluid being admitted to the cylinders above the pistons through pipes (8c) and (9c) to apply grinding pressure to the wood, and pressure fluid being admitted to the cylinders through pipes (8d) and (9d) to the lower sides of the pistons to apply backing pressure to retract the pressure feet when the pockets are to be refilled.

The Pockets

The pockets (6) and (7) consists each of two side plates (19) which extend lengthwise of the pockets and are fastened near their upper ends to the inner flanges of the horizontal H-beams (20), and near their lower ends to the inner flanges of similar horizontal H-beams (21), which H-beams extend between the two frame plates (10) and are not connected thereto. The plates (19) are connected together at their ends by cross connecting angle bars (22) and (23) fixed to the ends of the plates near the top and bottom and connected at their ends to the webs of the H-beams. The pockets thus present two opposite connected walls disposed between the frame plates (10), and the latter are formed with openings (24) through which the wood is introduced into the pockets between the walls. The pocket is closed at its ends by doors (25) sliding in vertical guides (26) fixed to the plates (19) near the ends and extending between the bars (22) and (23), as best shown in Figs. 4 and 5.

Finger bars (26x) extend along the lower edges of the side plates (19), as shown in Figs. 3 and 4, and are shaped to follow generally the contour of the surface of the stone and to lie close to it. The finger bars extend as usual beyond the ends of the stone, and between the finger bars the pocket is contracted at the bottom so as to lie within the longitudinal limits of the surface of the stone, plates (28x) being fastened to the inner flanges of the channel bars (23) and extending down to within a short distance of the stone so as to leave spaces (29) for the escape of the water and groundwood from the pockets down and around the ends of the stone.

The pockets are mounted in the frames (5) in such a manner that they can be adjusted to and from the stone and firmly fixed and held in their adjusted position, the purpose being to maintain the proper operative relation of the bottom of the pockets to the surface of the stone notwithstanding the reduction of its diameter through wear.

The Feed

In its advance in the pocket the mass of wood is engaged with and supported at its sides by means which are advanced by

the pressure foot and which travel at the same speed as the wood, so that the latter in its travel will not engage any relatively fixed portions of the pocket. The supporting means are in the form of opposing pairs of endless chains of supporting members or plates (37), which travel on and are supported by pairs of endless chains of friction rollers (38); and the latter travel on vertical fixed runways in the form of plates (39) mounted in vertical slots (40) in the two side plates or walls (19) of the pocket.

Each of the chains of friction rollers is made up of links (41) of the form shown in Figs. 6, 7 and 8, each link consisting of a cross bar (41x) from the ends of which extend in one direction two parallel arms (42) and in the opposite direction two parellel arms (43), the spacing between the arms (43) being such as to receive the arms (42) of the adjacent link. The rollers (38) are mounted between the arms (42) of the links and are formed in opposite ends with sockets to receive pivot pins (44), which latter extend through aligned holes in the arms (42) and (43) of adjacent links and thereby pivot the links together, the pins being retained in position and prevented from escaping by means of cotter pins (45) extending through the arms (43) and through the pivot pins.

These chains of rollers travel around upper guide rolls (46) journalled in bearings at the upper end of the pocket, and around lower guide rolls (47) journalled in bearings at the lower end of the pocket, the outer stretches of the chains traveling on and being guided by upright tracks in the form of plates (48) pivoted at their lower ends, as at (49), to the lower H-beams (21), and adjustably connected at their upped ends by bolts (50) to slotted brackets (51) fixed to and projecting outwardly from the upper H-beams (20), so that, by the adjustment of the plates (48), the tension of the chains of rollers may be controlled and regulated. The inner stretches of the chains travel between vertical plates (52) fixed to and extending inwardly from the side walls (19) and inwardly of the runway plates (39), the chains being prevented from sagging and the rollers being maintained in traveling contact with the runway plates by means of vertical rails or shoulders (53) fixed to the inner sides of the plates (52),

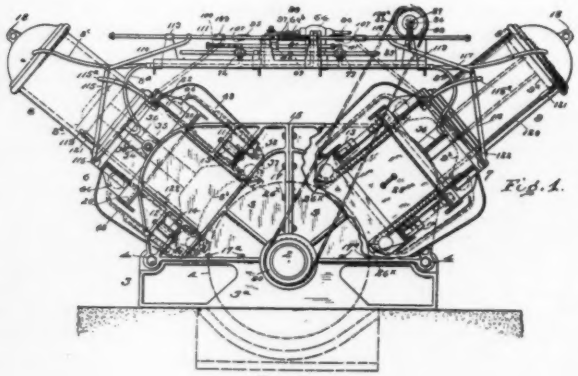


FIG. 1
Side Elevation of the Grinder.

behind which shoulders the outer ends of the pins (44) travel in contact therewith, as best shown in Fig. 8.

The endless chains of plates (37) are made up of plates of the specific form shown in Figs. 9 and 10, where it will be seen that each plate is formed with notches or recesses (54) in one edge and provided with tongues (55) on the opposite edges, the tongues entering the notches in the adjacent plate and being held therein by pivot screws (56) screwed into the outer ends of one plate and through the tongues of the adjacent plate.

The chains of plates thus made up surround the chains of rollers and travel thereon and are supported by them, the chains of rollers constituting in effect anti-friction means for supporting the chains of plates from the runways with the minimum of friction. The inner faces of the plates of each chain present conjointly a practically continuous surface, which surfaces, at the opposite sides of the pocket, extend in planes slightly inward of the planes of the guiding plates (52), so that they afford a series of moving bearing supports for the wood in the pockets.

One plate (57) in each chain, as shown in Fig. 3, is recessed

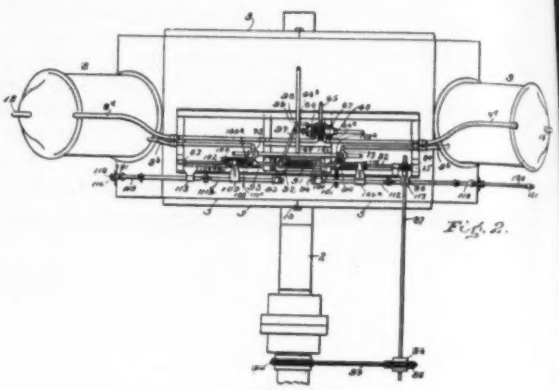


FIG. 2
Plan View of the Grinder.

in its inner side to receive a lug (58) projecting from the side of the pressure foot, the several lugs being fastened in the recesses of the links (57) of the respective chains by means of fastening screws (59) tapped in the plates and extending through the lugs. As a result the chains of plates will be positively moved by the pressure foot and at the same speed of travel, so that there can be no arching of the wood in the pocket, as frequently happens when the wood, in its advance, engages the fixed walls of the pocket.

As a result of this construction, in the advance and retraction of the pressure foot in the pocket the opposing chains of plates will be moved in rectilinear paths back and forth and will be supported by the chains of anti-friction rollers which will travel with the minimum of friction, so that the chains of plates will move freely and will give moving support to the mass of wood in its advance to within a very short distance of the active surface of the stone. This action is made possible by the small pitch diameter of the chains of plates, which, as shown in Figs. 9 and 10, are bevelled outwardly along opposite edges at opposite ends, as at (37a) and (37b), the bevelled portions extending for a portion only of the length of the plates and being disposed out of line with one another, or staggered. This construction of the plates permits the edges of adjacent plates to align closely to one another at the inner side of the chain in the travel of the latter in a rectilinear path along the side of the pocket, so that the plates of the chain will present a practically continuously supporting surface; but by reason of the bevelling of the plates, the latter will be allowed, in passing over the lower guide roll (47), to pivot sharply and make a short turn around the roll, and thereby support the mass of wood close down to the grinding surface of the stone. With the various parts proportioned as illustrated, the pitch of the chain of plates is such that moving support will be given by them to the wood to within about four inches of the stone, thus practically eliminating all possibility of the wood "bunching" in the pocket.

It will be observed on reference to Fig. 3 that the lower portions of the side walls or plates (19) of the pocket extend inwardly toward each other on a bevel (19a) to a point slightly inward of the planes of the chains of plates, and then extend to the finger bar in parallel planes (19b), the junction of the bevelled portions and parallel portions being just above the axis of the lower guide rolls (47). As a result of this form and con-

struction of the parts, the support and pressure of the mass of wood advanced by the pressure foot is taken off the chains of plates and transferred to the sides of the pocket as the stone is approached and before the axis of the guide rollers is reached, thereby relieving the bearings of the guide rollers of dangerous or injurious stresses.

The Pressure Feet

When the pressure foot is permanently connected with the chains of plates, as just described, only a limited stretch of the chains will be active in giving support to the advancing wood. To enable all portions of the chains of plates to be brought into action and thus prevent the wear on the chains from being confined to one portion thereof, the parts may be so constructed that in the successive advancing movements of the pressure foot it will advance the chains intermittently and progressively, the latter remaining at rest on the retraction of the foot between its advancing movements. This action may be accomplished by the construction shown in Figs. 11 and 12, which constitutes in effect a clutch connection between the pressure foot and chains, operating to clutch

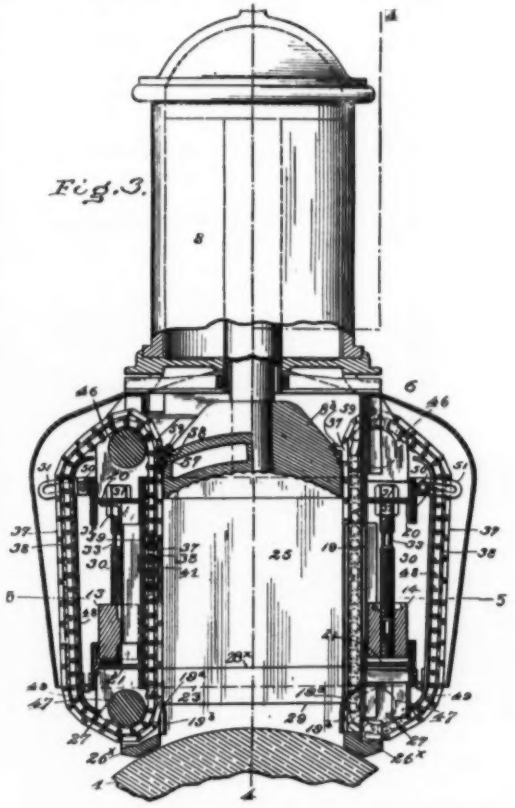


FIG. 3

Longitudinal Section on an Enlarged Scale Through One of the Pockets.

the parts on the advancing movement of the foot and operating to unclutch them on the retracting movement of the foot.

The mechanism for automatically controlling the feed of the wood so as to insure that the stone will not be subjected to uneven or varying degrees of pressure exerted by the wood is best shown in Figs. 1, 2 and 13 to 20. It can be seen that the pressure fluid, in the present instance water, for applying the grinding and backing off pressures is supplied from separate sources, the water for the higher grinding pressure being admitted to a so-called Ramsay valve mechanism (64) by means of a pipe (65) connected with a suitable source of fluid under the higher pressure, and entering the upper ends of the cylinders above the pistons by the pipes (8c) and (9c), which are connected respectively with ports (66) and (67) in the valve casing. The pipes (8c) and (9c) serve also for the flow of the exhaust from the upper ends of the cylinders when the pistons move up in backing off, such exhaust leaving the casing of valve mechanism (64) through an end exhaust port (68), the flow of the water in opposite directions through the pipes to apply the grinding pressure and to permit the cylinders to exhaust being controlled by a piston valve (64a)

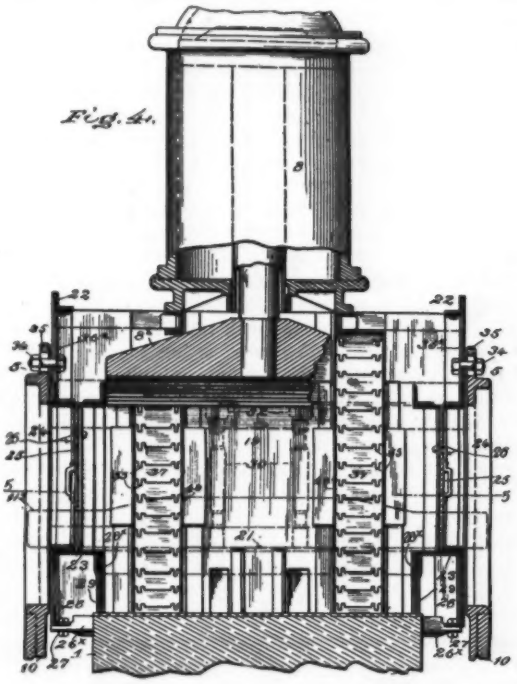


FIG. 4

Longitudinal Section on the Line 4—4 of Fig. 3.

movable in the valve casing and provided with a valve stem (64b) extending outwards through the end of the valve casing and operated automatically by a mechanism to be described presently.

Water under lower pressure for applying the backing off pressure is supplied to pipe (69), which is connected at its opposite ends to supply ports (70) and (71) in the casings of two three-way valve mechanisms (72) and (73), which valve casings are provided with discharge ports (74) and (75), to which are respectively connected the pipes (8d) and (9d) entering the lower ends of the cylinders. The pipes (8d) and (9d) also serve for the flow of the water from the lower ends of the cylinders in exhausting the same, this water finding its escape through the exhaust ports (76) and (77) in the casings. The flow of water through the three-way valve mechanisms is controlled by plug valves (78) and (79) which can oscillate in the valve casings and which are provided with valve stems (80) and (81) extending outside the casing and operated automatically as will be described. When in one position the three-way valve mechanisms, which are shown in Figs. 16 and 16a, operate to permit the water to flow from the supply pipe through the valve casings and to the cylinders on the lower side of the pistons, and when in another position they shut off the flow of the water from the supply pipe and open the lower ends of the cylinders to exhaust.

The operation of the three valve mechanisms (64), (72) and (73) is controlled automatically by power-operated mechanism driven from a constantly rotating shaft (82), which is controlled by the movements of the two pressure feet (8b) and (9b). As best shown in Figs. 1 and 2, shaft (82) is mounted in bearings

TAPPI SECTION, PAGE 270

(83) and (84) and is provided with a worm wheel (85) engaged by a worm (86) on a countershaft (87) having fixed to it a sprocket wheel (88) driven by a sprocket chain (89) receiving its motion from a sprocket wheel (90) on the shaft (2) of the grindstone, the shaft (82) being thus rotated constantly from the grinder shaft. At its middle portion the shaft (82) has fixed to it a double reversed pitch fed screw (91) which is adapted to be engaged by a reversing head (92) swivelled in an open rectangular frame or slide device (93) reciprocating back and forth on fixed guide rods (94). The reversing head, when in one oblique position, as shown in Fig. 18, is engaged by one of the threads of the feed screw and is fed by the latter in one direction. When it is in its reverse oblique position, the sliding head is engaged by the other thread of the feed screw and is moved in the opposite direction. The reversal of the position of the swivelling head is effected by two reversing members of "kickers" (95) and (96) mounted loosely on the shaft (82) at the opposite ends of the screw, and movable along the shaft, as will be presently described.

The slide (93) is connected with the stems of the three valve mechanisms (64), (72), and (73) to operate the latter, and the movements of the slide by the feed screw are controlled automatically by the movements of the pressure feet.

The slide (93) is connected with the stem of the piston valve (94a) through a lever (97) pivoted at one end to the slide (93) and fulcrumed at its opposite end to an arm (98) fixed to the casing of the valve mechanism (64), the lever being pivoted between its ends, as at (99), to the end of the valve stem, so that the movement of the slide (93) by the feed screw in opposite directions will move the piston valve in its casing correspondingly.

The slide (93) is connected with the stems of the two plug valves (78) and (79) by means of two slotted arms (100) and (101) fixed at their inner ends to the stems of the two plug valves, the inner portions of the slots in the arms extending at

Fig. 5.

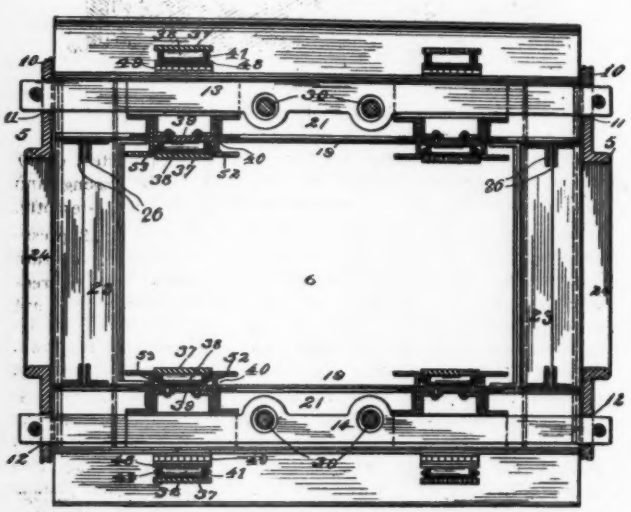


FIG. 5

Sectional Plan View on the Line 5—5 of Figs. 3 and 4.

an oblique angle to the outer portions, as at (100a). The slots in the arms loosely receive pins (102) and (103) fixed to the opposite ends of a rod (104) which is fastened rigidly to the slide (93) as shown in Fig. 20. The construction and relative form of these parts is such that when the slide (93) is at the left hand end of its movement, as shown in Fig. 13, the pin (102) will be at the outer end of the slot in the arm (100) and this arm will be held in a horizontal position with the plug valve (78) in a position which will cut off the backing off pressure to cylinder (8) and will open the lower end of the cylinder to exhaust. In this position of the parts the pin (103) will be at the inner end of the outer portion of the slot in arm (101) and the arm will be held in a vertical position which will hold plug valve (79) in a position to shut off communication of the lower end of cylinder (9) with the exhaust and will admit backing off pressure to this cylinder. When the slide (93) is at the right hand end of its movement, the arm (100) will be held in a vertical position and the arm (101) in a horizontal position, in which position of the

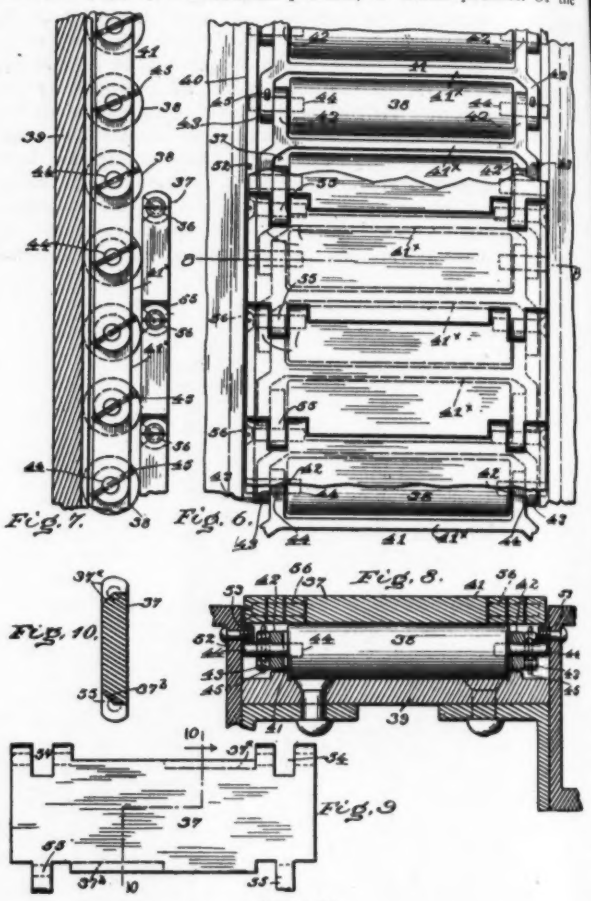


FIG. 6-10

Fig. 6—Plan View of a Length of One of the Endless Chains of Rollers and of One of the Endless Chains of Plates Supported Thereby. Fig. 7—Edge View of One of the Chains. Fig. 8—Cross Section Through the Chain on the Line 8—8 of Fig. 6. Fig. 9—Plan View of One of the Plates of the Chain of Plates. Fig. 10—Horizontal Section Through One of the Plates on the Line 10—10 of Fig. 9.

parts the two plug valves (78) and (79) will be reversed in position in their valve casings and backing off pressure will be admitted to the lower end of cylinder (8) and the lower end of cylinder (9) opened to exhaust.

The feed of the slide (93) in opposite directions is controlled by the position of the pressure feet, and this control is effected through the medium of the two kickers (95) and (96), which are operated by the pressure feet in the following manner. As shown in Fig. 18, the kickers are each in the form of a plate (105) provided with a forward inclined edge (106), and fixed to a block (107) formed with a horizontal opening in which is fixed the forward end of a tube (108). The tubes of the two kickers surround the shaft (82) and extend loosely at their outer ends through bracket arms (109) and (109a), the outer ends of the tubes having nuts (110) screwed thereon and adapted to bear against the outer sides of the bracket arms. Spiral springs (110a) encircle the tubes between the blocks and the bracket arms and bear at their opposite ends against these parts, the springs acting

to give yielding support to the kickers in the direction of their movement on the shaft.

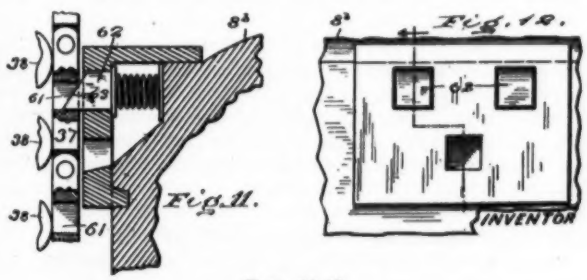
When either of the bracket arms (109) or (109a) is moved toward the double feed screw, the associated kicker will be correspondingly moved and the inclined edge of the kicker plate entered in the opening in the slide (93) and engaging the swivelling head (92), will turn the latter to an oblique position corresponding to the inclination of the edge of the kicker plate, thus setting the head so that in the rotation of the double thread screw, the head will be received between the threads thereof and will be fed by the screw. Such action of the kicker (95) is illustrated in Fig. 18, the swivelling head having been turned by the engagement of the kicker plate so that, as the kicker is moved further inwardly, the swivelling head will enter the correspondingly inclined thread (91a) of the screw, and the head (and consequently also the slide (93)) will be fed to the right. When the other kicker (96) at the opposite end of the screw is similarly operated, it will engage the swivelling head fed out by the screw at that end and will reverse the position of the head; and by the continued inward movement of the kicker plate, the head will be caused to enter into the oppositely inclined thread (91b) of the screw, whereby the head (and consequently the block) will be fed back to its original position, the direction of movement of the block being thus reversed by the alternate action of the swivelling head of the two kickers.

Operation of the Control Mechanism

The operation of the controlling mechanism above described is as follows:

It will be assumed that, as shown by the full lines in Fig. 13, the pressure foot in pocket (8) has not arrived at the limit of its advancing movement and is still under grinding pressure, the pressure foot of pocket (9) being at the limit of its upward movement and under backing off pressure, this pocket of course being filled with wood and for the time being idle but ready to be brought into action when all the wood in pocket (8) has been ground.

Piston valve (64a) is at the left hand end of its stroke and is admitting grinding pressure through pipe (8c) to the upper end of cylinders (8), and pipe (9c) leading from the upper end of the cylinder (9) is in communication with the exhaust through port (68). Valve (78) of the three-way valve (72) is in a position cutting off the backing off pressure to the lower end of cylinder (8), and opening the same to the exhaust through pipe (8d), and finally through exhaust port (76), this position

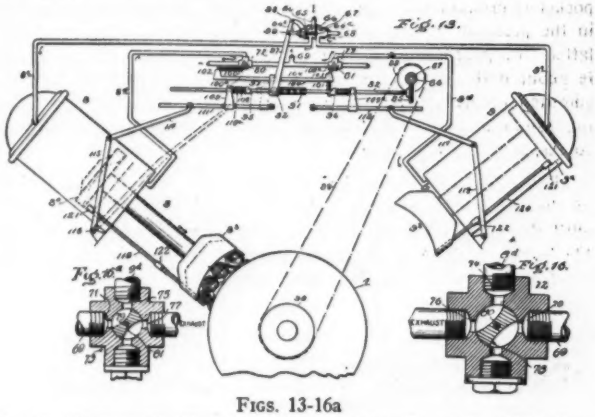


FIGS. 11-12

Fig. 11—Cross Section Through a Portion of the Chain of Plates and Through One Side of the Pressure Foot, Illustrating a Modified Form of Connection Between the Two. Fig. 12—Elevation of the Pressure Foot in its Modified Form.

of the valve being shown in Fig. 16; and valve (79) of the three-way valve mechanism (73) is in a position admitting backing off pressure to cylinder (9) and cutting off communication with the exhaust port (77), such position of the valve being shown in Fig. 16a. The slide (93) is at the left hand end of the screw with lever (97) in a position holding the piston valve in the position above mentioned, and rod (111) is at the left hand end of its movement holding kicker (95) disengaged and distant from the reversing head (92) and held in this position by the folded condition of the toggle links (114) and (115). The other rod (112) carrying kicker (96) is at the right hand end of its stroke holding the kicker retracted and the parts are so held by the folded condition of the toggle links (117) and (118).

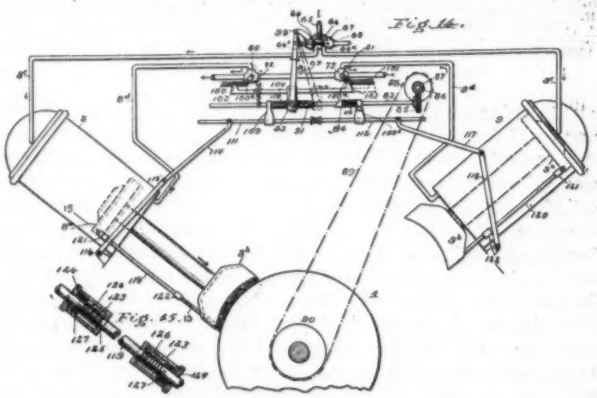
As the pressure foot (8b) continues its advancing movement, the upper abutment (121) on operating rod (119) will come into engagement with toggle link (115) and will act to straighten out the toggle connection, as shown by dotted lines to the left of Fig.



FIGS. 13-16a

Fig. 13—Diagrammatic View Illustrating the Operation of the Mechanism Controlling the Alternate Action of the Wood Feeding Mechanisms. Figs. 16 and 16a—Sectional Views of the Valves for Controlling the Admission of the Backing-off Pressure to the Lower End of the Cylinders and the Exhaust of the Same.

13, in which action rod (111) will be thrust to the right and will move kicker (95) into engagement with the swivelling head (92), which latter will be engaged by one of the two threads of the constantly rotating feed screw and will be fed to the right, thereby carrying the slide (93) with it. As the slide begins its movement it will start the movement of piston valve (64a) to the right, and likewise the movement of the two pins (102) and (103) in the slotted arms (100) and (101). This movement of the piston valve will begin to cut off grinding pressure to cylinder (8), and will at the same time admit grinding pressure to cylinder (9) in which action of the parts pin (102) will move idly in the



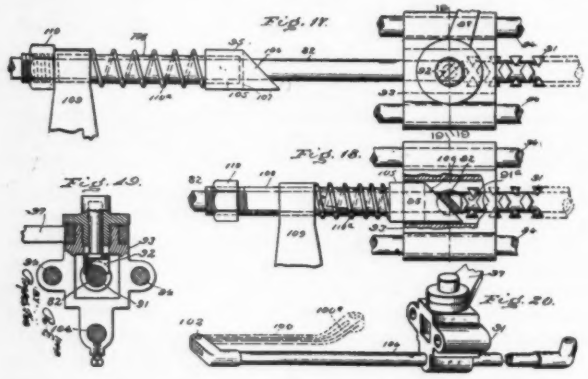
FIGS. 14-15

Fig. 14—Diagrammatic View Showing the Parts in a Different Position. Fig. 15—Sectional Elevation on an Enlarged Scale on the Line 15—15 of Fig. 14.

slot in the horizontally positioned arm (100) without offering the three-way valve mechanism (72); but the operation of the three-way valve mechanism (73) will begin at once owing to the angular relation of the arm (101) to the rectilinearly movable pin (103), with the result that backing off pressure will continue to be cut off from cylinder (8), so that the associated pocket will continue in operation, while backing off pressure will be cut off from cylinder (9) so that the associated pocket of this cylinder may begin its grinding operation.

This condition is shown in Fig. 14, where by full lines the pressure foot (8b) is shown nearly at the end of its advance and still operating under grinding pressure, while pressure foot (9b) is shown at the beginning of its advance with the grinding pressure being admitted to cylinder (9) and the lower end of the cylinder opened to the exhaust. By this sequence of operations the action of the two pockets overlap slightly, grinding pressure to the cylinder of pocket (8) not being cut off until the other pocket is brought into action, so that there will be no interruption in the pressure on the stone, and consequently no racing of the latter. In practice the period of overlap of the two operations is about half a minute, in which time the grinding pressure is admitted to the cylinder of the inactive pocket and cut off from the cylinder of the other pocket, and the backing off pressures correspondingly controlled.

As the slide continues its advance under the feeding action of the screw, piston valve (64a) is moved further to the right until the parts reach the position shown by dotted lines in Fig. 14: in this position of the parts grinding pressure is entirely cut off from cyclinder (8) and fully admitted to cylinder (9), pin



FIGS. 17-20

Fig. 17—Plan View on an Enlarged Scale of Certain Details of the Mechanism for the Automatic Control of the Feed of the Wood in the Two Pockets. Fig. 18—A Similar View with the Parts in a Different Position.. Fig. 19—A Cross Section on the Line 19—19 of Figs. 17 and 18. Fig. 20—Perspective View of a Detail of the Mechanism for the Automatic Control of the Feed of the Wood in the Two Pockets.

(102) having by this time reached the outer end of the oblique portion of the slot in arm (100) and having turned this arm down to a vertical position and thereby shifted plug valve (80) of three-way valve mechanism (74) and admitted backing off pressure to cylinder (8). Pin (103) in these operations having, after the operation of valve (81) as described, moved arm (101) to a horizontal position as shown in Fig. 14, and continuing its movement to the right to the dotted line position, moves idly in the slot in arm (101) without effecting further movement of the valve. The advance of pressure foot (9b) having thus been started, it will continue to advance and feed the wood against the stone, the pressure foot (8b) having in the meantime been backed off and held in backed off position by the backing off pressure, so that the pocket can be refilled, the reversing head being fed out at the right hand end of the feed screw and being left in position there ready to be reversed for the next operation. In the retraction of the pressure foot (8b) the lower abutment (122) on the rod (119) comes into contact with toggle lever (115) and folds the toggle links, thereby retracting the kicker (95) to its former position ready for the next operation.

The parts remain in this position until all the wood in the pocket operated by cylinder (9) has been ground, whereupon upper abutment (121) on rod (120) will come into engagement with toggle lever (118) and will straighten out the toggle joint, thereby shifting rod (112) to the left and correspondingly shifting kicker (96), with the result that the reversing head will be changed in its position and engaged by the other thread of the constantly rotating feed screw, and will be carried back again to the left. In this feed of the reversing head, the slide, and consequently the valve mechanism operating devices, will be shifted in the opposite direction to those described, and the operation of the various parts will be reversed, thereby admitting grinding pressure to the cylinder (8) of the refilled pocket to start its operation, and a moment thereafter cutting off grinding pressure to cylinder (9) and admitting backing off pressure to enable the pocket of cylinder (9) to be refilled.

Operation Automatically Repeated

These operations are repeated automatically by the constantly rotating feed screw (91) controlled by the position and operation of the pressure in the two pockets, the pockets being brought into action alternately according to the amount of wood in the active pocket as determined by the position of its pressure foot; so that, while only one pocket will be in operation at one time, yet there will be no cessation in, or interruption of, the pressure of the wood against the stone, the pressure on the latter being uniform, with the result that the stone will operate on the wood with the greatest advantage in producing a uniform grade of pulp, and wastage of power or variation in the grade and grinding of the pulp will be avoided—A.P.-C.

Canadian Summer Meeting

The Technical Section of the Canadian Pulp and Paper Association will hold its Summer Meeting this year from June 23-29.

By courtesy of the various companies, the summer meeting will include visits to the following mills: Fort William Paper Co., Provincial Paper Mills, Ltd., Thunder Bay Paper Co., Kenora Paper Mills and the Spanish River Mills at Sault Ste. Marie.

The program, subject to slight changes, is as follows:

Leave Toronto June 23 at 10:05 a. m., C. N. R.
Arrive Sarnia June 23 at 3:45 p. m.
Leave Sarnia June 23 at 4:00 p. m., by S.S. Naronic.
Arrive S. S. Marie June 24 at 9:30 a. m.
Arrive Port Arthur June 25, 5:30 a. m. Visit mills in the district.
Leave Port Arthur June 25, 11:05 p. m.
Arrive Kenora June 26, 6:10 a. m.
Leave Kenora June 26, 9:20 p. m.
Arrive Port Arthur June 27, 6:09 a. m.
Leave Port Arthur June 27, 1:00 p. m., by S.S. Huronic.
Arrive Sault Ste. Marie June 28, 8:30 a. m.
Leave Sault Ste. Marie June 28, 12:30 p. m.
Arrive Sarnia June 29, 6:30 p. m.
Arrive Toronto June 29, 10:45 p. m.

Members of TAPPI are invited to take this trip. Arrangements and reservations should be made at once with A. E. Cadman, Canadian Pulp and Paper Association, 701 Drummond Bldg., Montreal, P. Q.

Holmens Bruks Joins TAPPI

The newest corporate member of the Technical Association is Holmens Bruks Fabriks A/B of Norrköping, Sweden. Mr. Fredrik Grewin will be the representative of the company in the Technical Association.

Holmens Bruks Fabriks are manufacturers of glazed and unglazed news, printings, match, and lining papers and also mechanical and sulphite pulp. All the pulp made is used by the company itself.

The company operates two mills, one at Norrköping and the other at Hallstavik. In the Norrköping mill there are five paper machines producing a total of 28,000 tons annually. The Hallstavik mill manufactures 48,000 tons of news a year.

Mr. Grewin is president of the Swedish Paper and Cellulose Engineers Association.

The Theory of Rosin Size Analysis*

Arthur C. Dreshfield [1]

When a chemist undertakes the analysis of a material, his first thought must be: "What is the incentive motivating the analysis and to what purpose will the results be put?" If it is merely curiosity prompting him, the analysis will develop into the determination of the ultimate structure of the material under consideration. This will probably entail numerous complicated and tedious procedures and, assuming the general nature of the material is known, as each determination is made, a mental picture will have to be drawn of the reactions which take place. To follow a text book analysis procedure blindly would be a waste of time. On the other hand, many chemists, especially those engaged in the routine testing of commercial products used in the daily processes in their plants, have no particular regard for the ultimate structures. Their analyses are made to keep a check on the uniformity and quality of their final product. Their chief interest lies in determining the efficiency with which raw material will work and, to do this, a comparison with a pre-determined standard is all that is necessary. Rosin Size unquestionably falls into this class as far as the majority of paper mill chemists are concerned.

Scope

It is the purpose of this paper to accomplish two things. First, to show the reactions taking place in the particular procedures used in rosin size analysis and, second, to show what analyses seem most important for control work.

Let us recall that size is a product obtained by cooking rosin with soda ash. Rosin is chiefly abietic acid with some unsaponifiable esters and hence the cooking process is simply one of saponification. Therefore, a clean, normal, finished size should be a mixture of water, sodium resinate, quite free abietic acid, unsaponifiable esters, and possibly uncombined soda ash. Now, if we turn to the standard text books on methods of analysis, we will find the determinations for size will include moisture, total rosin, combined rosin, free rosin, total ash, total carbonate, free carbonate, degree of solubility, and insoluble matter.

Moisture Tests

Since rosin size contains no low volatile matter, other than the water present, any standard drying method must give satisfactory results. Drying to constant weight at temperatures slightly over the boiling point of water has no disadvantages. One method recommends drying at 105 deg. C. after mixing the sample with pure sea sand, another dries an aliquot part of an emulsified sample at 105 deg. C. It has been found that more rapid tests on the paste alone at slightly elevated temperatures reduce the time element considerably without affecting the accuracy of the results, providing the temperatures and times are closely watched. Excessive heating at elevated temperatures gives low results due to volatilization and even oxidation. Cases have been noted where prolonged heating just above the boiling point have caused samples to gain weight after the state of constant weight had apparently been reached. This may be due to the formation of polymers or condensation products which take oxygen into the structure probably at the double bond linkings of the molecule. In any event, a properly conducted moisture test drives off only the moisture and gives a reliable value for the bone dry solids directly.

Total Ash

The test for *total ash* in size is simple. It is made by carefully burning off a 1 to 2 gram sample of the size paste in a platinum crucible until a pure white ash is obtained. Care must be taken to keep the fumes produced at the early stages of ignition by the destructive distillation of the material from igniting. Heating should be started cautiously and brought up gradually until all fuming ceases. After that, the full blast may be used until the ash is free from carbon. Platinum must be used or else the alkali will react with the silica of the porcelain and give erroneous results. For all normally prepared sizes, the residue on ignition can be caluculated directly as total sodium carbonate. If silicates or impurities are suspected, the subsequent treatment of the ash will reveal them. The ash can be dissolved in hot water and titrated with standard acid. If no precipitate forms at the end-point of titration, the size is free from silicates. Normally the titration will exactly check the ignition value. If the titration value is less than the ash and if no silicates are present, the difference represents inactive inorganic salts whose origin may be in the water from which the size has been prepared. As said previously though, for normally cooked sizes, the residue on ignition can be directly taken as the total sodium carbonate equivalent of the alkali present.

Free Carbonate

Free carbonate procedures make use of the fact that sodium resinate, abietic acid, and the unsaponifiable esters are completely soluble in absolute alcohol, whereas sodium carbonate is not. The procedure simply consists in dissolving the size in absolute alcohol, filtering off the residue which, after thorough washing with absolute alcohol is dissolved in warm water and titrated with standard acid as soda ash.

Insoluble, inert, inorganic chemicals can be detected by filtering the absolute alcohol solution through a tarred filter paper and weighing the dry residue previous to dissolving for the titration. The difference between this weight and the value of carbonate obtained by titration is the per cent of insoluble inorganics.

This free soda test gives a value for that soda ash present in the size in an uncombined state. The total ash minus the free gives the combined alkali expressed as sodium carbonate.

Total Rosin

Tests for *total rosin* consist in dissolving the size in water, acidifying and extracting the precipitated rosin with ether, separating, washing, driving off the ether, and drying the residual rosin. Care must be taken to dry to constant weight at temperatures not over 105 deg. C. The reactions of this test are simple. The acid breaks down the sodium resinate to form pure rosin. In the absence of the suspending or emulsifying power of the sodium resinate soap, the free rosin and unsaponifiable material floculates and precipitates out with the abietic acid. Such tests, therefore, give total resinous materials.

Free and Combined Rosin

This now brings us to the two remaining tests—*free* and *combined rosin*—and it is these two tests which necessitate a closer examination of the theory involved than any other tests made on size. The standard procedure of the text books, copied from one edition to the next, consists in dissolving the size paste in varying amounts of water and extracting with ether. The ether extracts are washed and the combined washings are re-extracted a varying number of times. The ether is driven off and the residue, dried to constant weight, is called free rosin.

To determine *combined rosin*, these same text books direct you to combine the wash water from the free rosin tests, acidify, thereby precipitating all the remaining rosin not extracted in the free rosin tests, and proceed with the usual extractions as in the case of total rosin. One thing is true, the sum of the free and combined rosins so determined should equal the total rosin determination, providing the operator has been careful. The modifications of the test for free rosin by extraction are numerous. Many differ only by the amount of water in which the samples are dissolved, others by the amount of ether used, and the number of extractions, and number of washings of the combined extractions. In one modification a small amount of 95 per cent alcohol

* Paper presented before Paper Technologist Club, Kalamazoo, Mich., Feb. 1, 1928.

[1] Chief Chemist, Western Paper Makers Chemical Company, Kalamazoo, Michigan.

is used as a solvent for the sample and this alcohol solution is then dispersed in H_2O and the procedure is identical from here on. This hastens the separation of the ether and water layers in the subsequent treatment.

Another method of determining free rosin which has been used quite successfully is the titration method. In this the sample is dissolved in absolute alcohol and titrated with standard alcoholic potash solution to a deep pink with phenolphthalein indicator. Results can be expressed either as free abietic acid or free rosin. The manner in which the result should be expressed depends upon the means by which the alcoholic potash has been standardized. If it has been standardized directly against standard acid and calculated to the proper amount of abietic acid, the results give free acid expressed as abietic. On the other hand, it is possible to standardize the alcoholic potash against a composite sample of rosin itself. Such standardizations naturally will give a factor slightly higher than for pure abietic acid, as they will then include the average unsaponifiable matter present in the rosin and the results obtained by the use of this factor should be expressed as free rosin and not as free abietic acid.

Extraction vs. Titration

It has long been known that, in determining free rosin, the

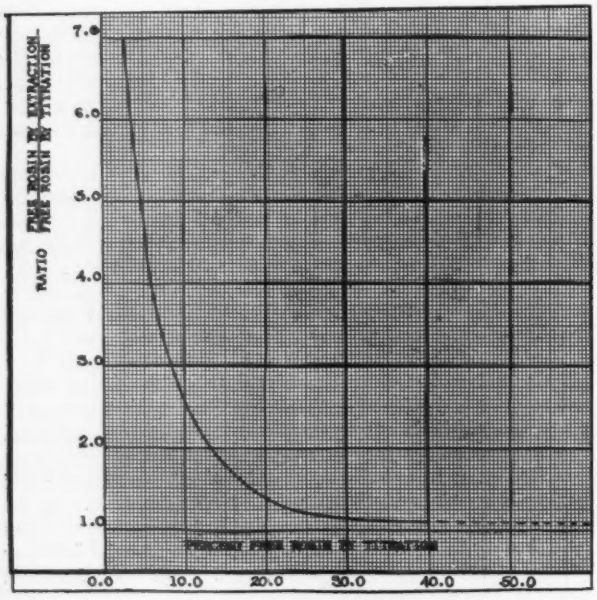


FIG. 1

Curve Showing the Relation Between Free Rosin by Titration and the Ratio $\frac{\text{Free Rosin by Extraction}}{\text{Free Rosin by Titration}}$

results obtained show considerable variation depending on the method used and, in some cases, on the operator. The results obtained by extraction methods have always been known to be higher than those obtained by titration. Values obtained by the former method are considerably higher than would be expected from a theoretical consideration of the reaction between soda ash and rosin. The titration method, on the other hand, gives results much nearer the theoretical value.

To prove this point, and also to attempt to evaluate a relation between the two methods and to explain the noted results, a series of analyses was made on about a hundred samples representing all grades of rosin size, from neutral to high free rosin. The procedure was to have one man run every test, determining free rosin by titration and by the modified ether extraction, using alcohol as the solvent. In the titration method, care was taken to judge all end-points as nearly alike as possible and, in the extractions, to use equal amounts of alcohol, ether and water, and keep temperatures and contact times as uniform as possible. The results have been expressed in the form of several graphs. In the one case, the ratio obtained by dividing the free rosin by extraction by the free rosin by titration has been plotted against the free rosin titration. (See Fig. 1.) Note that the curve in general approximates one branch of a hyperbola. Although only plotted for points up to 40 per cent free rosin titration, the one side approaches a factor of 1 at 100 per cent free rosin and the other side approaches infinity at 0 per cent.

Let us consider what takes place in the two methods of the determination. Rosin size is the salt of a weak acid and a strong base. In the presence of water the salt must hydrolyze into sodium- and Abietic-acid-ions. Sodium hydroxide, being strongly ionized, leaves in solution Na^+ and OH^- ions but abietic acid is practically unionized and exists in the molecular state. It might be well to recall at this point that a 0.1 N solution of sodium hydroxide is ionized to the extent of 91 per cent. Thus we see that the sodium hydroxide will exist in the ionic state while abietic acid will exist in the molecular state. The easiest way to express this is by an equation where R represents the abietic acid radical:

$$\begin{array}{llcll} \text{(Size)} & NaR & & Na^+ & R^- \\ \text{(Water)} & HOH & \leftrightarrows & OH^- & H^+ \\ & & & NaOH & HR \\ & & & & \text{(Rosin)} \end{array}$$

In the presence of ether, therefore, there will be taken into solution, not only the free rosin present in the size, but the unsaponifiable, and also that portion of the originally combined rosin which was hydrolyzed according to the above equation.

In the titration method, the only water present is the small amount originally present in the rosin size paste. Hydrolysis at this concentration is practically negligible and, since alcohol does not bring about hydrolysis, only the free abietic acid is titrated providing, of course, the alkali has been standardized against acid. If standardized against roisin, it will also include the average unsaponifiable matter. It is seen that the value obtained by an ether extraction includes not only the free acid shown by a titration test but also that portion of the combined rosin which was hydrolyzed and possibly the unsaponifiable. This explains why ether extractions are always higher than titration tests for free rosin determinations.

This also explains the limits of the curve. If a sample of pure abietic acid were available and titrated with alkali, 100 per cent would be found free; so, also, would the extraction method give 100 per cent rosin and the factor would be 1.0. Were 100 per cent sodium resinate available, titrations would show 0 per cent free roisin and extractions would show positive value due to hydrolysis. The factor then would be a positive value divided by 0., which is either infinite or undeterminable by ordinary methods.

Although, as far as is known, the actual hydrolysis of rosin soap at different concentrations has not been determined, certain data in the literature bears out these contentions. Hurst, in his "Textile Soaps and Oils," published by Scott-Greenwood & Sons in 1904, has determined, in a crude way, the hydrolysis of numerous soaps. One he lists as being made from tallow and rosin with the average molecular weight of the fats contained as 280. For such a fat, the total alkali present, expressed as NaOH, would be 13.26 per cent. The results of his hydrolysis tests are as follows:

Mols. Water	% Concentration	% NaOH	% Hydrolysis
150	10.1	1.5	11.3
250	6.3	2.3	17.0
500	3.3	3.1	23.4
1000	1.7	4.2	31.7
2000	0.8	5.3	40.0

TAPPI Method

The T.A.P.P.I. method for free rosin extraction calls for 10 grams of size dissolved in 30 cc. of water and washed into a separatory funnel with the minimum amount of water, probably in the neighborhood of 20 cc. After the addition of ether, the separated ether extract is washed twice with 25 cc. of water and the combined washings are re-extracted and re-washed twice in succession. One starts with 5 to 7 grams of dry size, and all in all the final wash waters will amount to about 150 cc. of water, although in most cases the amount of water will be in excess of

this. The concentration is in the neighborhood of 3.3 to 4.7 per cent. At this concentration, the soap examined by Hurst would show a hydrolysis in the neighborhood of 25 to 30 per cent. Of course, such a figure cannot be directly applied to the hydrolysis in the free rosin determinations. There are many factors which would influence the actual percentage, but it shows that the value is certainly an appreciable one.

To show further that hydrolysis takes place, depending on the concentration and, in general, on the treatment used by the operator, a series of free rosin tests was run on the same sample of rosin size, using different methods. The methods used included the following: free rosin by titration, free rosin by the modified ether extraction using alcohol as the solvent, free rosin by the TAPPI method, and two special extreme extractions. The first special procedure called for dissolving the sample in 50 times its weight of water at 25 deg. C, extracting and settling for 4 hours. 20 grams of water at 25 deg. C were added to the separated water layer and re-extracted. This was again repeated. The combined extracts were weighed at 70 deg. F. The second special extraction was made by dissolving the sample in 100 times its weight of water, the extractions being run at 390 deg. C; especially large amounts of wash water were used, contact times were excessively long and involved a prolonged violent agitation. The number of extractions of the wash waters was carried to five. The results obtained were as follows:

	Wet basis	Dry basis
Free rosin titration	17.0%	24.5%
Modified ether extraction	23.0	33.1
T.A.P.P.I. extraction	25.8	37.1
First special extraction	36.0	51.8
Second special extraction	49.7	71.5

This shows clearly the wide limits in which extractions may fall, due to variations in method.

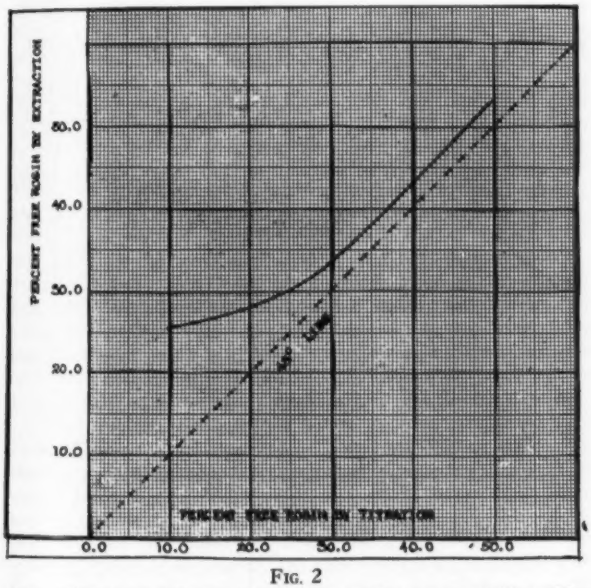


FIG. 2

Curve Showing the Relation between Free Rosin by the Modified Ether Extraction and Free Rosin by Titration.

Returning to the graph considered above (Fig. 1), without attempting to go too deeply into theory, considering the law of mass action, which expresses the hydrolysis taking place over the range of grades of size considered, the equation involved is:

$$Na^+ R^- + HOH \leftrightarrows Na^+ (OH)^- + HR$$

By the law of mass action, the product of the concentrations on one side of the equation divided by the product of the concentrations on the other must equal a constant. Thus we have

$$\frac{(HR) \times (Na)^+ \times (OH)^-}{(Na)^+ \times R^- \times (HOH)} = K$$

The value for (HOH) is a constant. The two (Na)'s cancel out and the equation revolves itself to

$$\frac{(HR) \times (OH)^-}{R^-} = K_h$$

in which K_h is the hydrolysis constant and is invariable at any fixed temperature.

Consider this equilibrium for sodium resinate at a fixed temperature. K_h will have a definite value. Assume the introduction

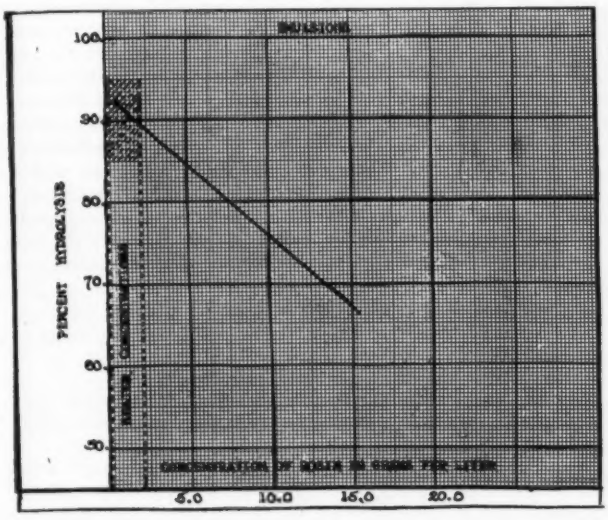


FIG. 3

Curve Showing Ivanoff's Relation Between Per Cent Hydrolysis and the Concentration of Rosin Size.

into the equilibrium of a definite amount of free HR; that is, consider a free rosin size instead of a neutral one. The K_h must remain constant but we have increased the value (HR). As a result, the $(OH)^-$ must decrease and the R^- must increase. What effect has this in the above equation? It must drive the reaction back to the left or, in terms with which the chemist is familiar, decrease the per cent of hydrolysis. That is, the more free rosin there is present, the less hydrolysis is noted and this explains the form of the curve intermediate between the two limits.

To show that the per cent of hydrolysis will also increase with a decrease in the concentration of the size which will account for the higher figures obtained by the extractions in which large amounts of water were used, consider the following formula which can be found in any text on physical chemistry:

$$K_h = \frac{h^2 \times C}{1 - h}$$

in which K_h is the hydrolysis constant at a fixed temperature, C is the initial molar concentration of the unhydrolyzed salt, and h is the extent of hydrolysis, which value times 100 is the per cent hydrolysis. If C is decreased, which is true when more dilute solutions are considered, then in order to have K_h remain constant, h must increase or, in other words, the per cent of hydrolysis must increase.

The second curve (see Fig. 2) is simply a calculated one obtained by multiplying the values of free rosin by titration by its own factor, thus giving an average value for the extracted free rosin which might be expected for any particular titration value. Note that the 45 degree line would be the curve if the two methods yielded equal results. The extraction values are at all points higher and, as more neutral sizes are approached, the deviation becomes greater. Since combined rosin is always determined in the wash waters from extractions, the errors entering into fee rosin extraction methods directly affect the combined rosin values.

Mechanics of Sizing

Rosin size paste in most cases is first reduced to the emulsion form before its introduction into the beaters. Concentrations of

this emulsion will vary from 1 to 5 per cent, depending on individual mill practice. In the light of hydrolysis, a test on the thick size paste does not show the amount of free rosin in the emulsion milk. Carry the emulsion still further into the beaters of the mill. Take as an average the beater consistency of 5 per cent. In a 2,000 pounds beater there will be 1 ton of air dry stock and 38,000 pounds of water. In an average news mill using rosin size, size may be added to an extent of 0.2 per cent or, in a mill making hard-sized wrapping, 4 per cent may be used. In the former case, 4 pounds of dry size will be used and the concentration in the beater will be 0.0105 per cent. In the latter case, 80 pounds will be used and the concentration will be 0.21 per cent.

Recently N. D. Ivanoff, of the government paper testing station at Moscow, determined the hydrolysis of rosin size emulsions at low concentrations. His emulsions were made from a size cooked with approximately 10 per cent soda. He checked his results, not only by freezing out the free rosin, but also by ultra-filtration methods involving the use of a colloidal membrane. His final data has been plotted on a curve (Fig. 3) and expressed in a table as follows:

Rosin g/l	Hydrolysis %
15.39	66.2
5.0	84.7
0.5	92.2

The dark band on this curve is the range of concentrations used in paper mill practice. Hydrolysis takes place from 90 to practically 100 per cent in the beaters.

This introduces a very interesting side line on the theory of the use of high free rosin against neutral sizes. Regardless of what theory is actually resorted to as an explanation of the mechanics of sizing, whether it is Wurster's older free rosin theory or the more modern physical chemists' colloidal theories of mutual precipitation of colloids by the introduction of charged electrical particles and the subsequent floculation, all theories agree that best sizing should be obtained with the greatest distribution of rosin throughout the beaters and such distribution of particles in the finest state of subdivision. When free rosin sizes are prepared with the idea of introducing this free rosin into the stock, mechanical means of one sort or another must be resorted to in order to break down the particle size of that rosin which does not combine with the soda ash. Hard boiling, mechanical means, and systems of emulsification all attempt to reduce the uncombined rosin particles to the finest state of subdivision. Microscopic examination of free rosin size emulsions indicate that a very fine state of particle subdivision is often obtained. Many free rosin sizes exhibit the Brownian movement and a measurement of the particle sizes shows values of from ½ micron upwards. In other words, the colloidal state of sub-division has been reached.

Hydrolysis

But consider a neutral size when it is introduced into the beater. Hydrolysis takes place to an extent of practically 100 per cent and the result is that the rosin is then present in the molecular state of dispersion. Even though some may question whether the simple introduction of rosin size emulsion into the beater brings about 100 per cent hydrolysis, consider what happens according to the law of mass action. When alum is put into the size-charged beater, there is introduced a salt of a strongly ionized acid and an amphoteric base into a solution containing free hydroxyl ions. There will result a reduction in the pH which is equivalent to removing hydroxyl irons from their active form. This probably results in the formation of aluminum hydrooxide. The colloid gives a negative electrical charge in water suspension. Oxides and hydroxides possess positive charges. This means that the aluminum hydroxide formed will be attracted to either or both of the negatively charged particles, neutralization will take place, and precipitation or floculation result. In this event, some hydroxyl ions and a certain portion of the rosin will also be removed from the equilibrium. Returning to the equation above, expressing the hydrolysis of sodium resinate in water, by the removal of either hydroxyl or abietic acid from the right-hand side of the equation, since the hydrolysis constant must remain constant, this action will tend to push the equation further to the right, or, bring about additional hydrolysis. In other words, before all the alum is added, complete hydrolysis of the sodium resinate must take place, which, as shown above, necessitates the formation of rosin particles of molecular size rather than in that of a mechanical colloid. Complete precipitation of all the rosin takes place at the isolectric point, which, for rosin, has been determined to be in the range 4.5 to 5.6, and practically every mill operating efficiently will bring the hydrogen ion concentration of its beaters down to this pH, if not lower.

Practical Considerations

To return from theory to practical considerations, the possible value of a free rosin test on the thick size paste in view of the fact that hydrolysis takes place to 100 per cent in the beaters was being considered. Such a test is of value only insofar as that it is a measure of the type of size being used, that is, so-called high free, medium free, or low free rosin size. Such knowledge is necessary when considering the possible mechanical difficulties likely to be experienced in emulsifying, although such difficulties are also closely coupled with water conditions.

At this point it should not be concluded that it is the author's opinion that a neutral size will, in all cases, size as well, if not better, than a high free rosin size. That is not the point under consideration. The question being discussed is the possible interpretation of results obtained by tests and their correlation with operation in the beater. Without going into detail, it is believed that the sizing efficiency depends on many factors other than the amount of free rosin present in the original size. The efficiency with which size is emulsified, temperatures, stock conditions, water conditions, methods of precipitation with alum, and unquestionably, hydrogen ion concentrations all will have a material effect on the resulting sizing in the paper. If a mill is fortunate enough to have been able to control all these factors with certain uniformity and to couple them with the efficiency of the final sizing, then if they have found maximum efficiency to result with the use of a particular grade of free rosin size, a control test for free rosin will unquestionably be of value. As will be shown later on, there is one other possible value for a free rosin test,—that is in the determination of the ultimate structure of the size.

Soda Test

Consider now the soda test. This, coupled with the free rosin test is another check on the grade and also an indication of how well the size has been cooked. As a measure of the alum requirements in the beater, it is practically useless. To prove this statement, a series of tests was run in which known amounts of dry size were emulsified and titrated with standard alum solution to a pH of 5.0. It was found that a neutral size required 0.387 pounds of alum per pound of dry size, a medium free rosin size—0.284 pounds per pound, and a very high free rosin size—0.231 pounds per pound. Assuming 1,000 pounds of stock to be sized with 1.5 per cent of dry size, there would be present 15 pounds of dry size and, were this size a neutral one, 5.8 pounds of alum would be required to precipitate it just below the isolectric point. If a high free rosin size were used, 3.5 pounds would be required. There is a difference of 2.3 pounds of alum per thousand pounds of stock. Under average mill conditions of water and stock, 40 to 50 pounds of alum would be used in the beater. The majority of this is required to neutralize the alkalinity of the stock and the hardness of the water. A difference of 2.3 pounds in the alum requirements of the size is, in all probability, less than the accuracy with which alum is usually measured. As an insurance against variations in stock and water conditions, it is customary to use an excess of alum several times greater than the difference in the alum requirements of a neutral and high free rosin size. Thus the soda test on the size can be of little value as a measure of the alum required in the beater.

For the moment, let us see what the procedure would have to be in order to determine the true composition of the size as

ceived. Suppose we analyze for total solids, total soda, free oda, and titrate for free rosin. Then we can use the following alculations:

Eq. 1 Total Solids—free Na_2CO_3 = Sodium Resinate + Free Abietic Acid + Unsaponifiable

Eq. 2. Total Na_2CO_3 — free Na_2CO_3 = Combined Na_2CO_3

Eq. 3. Combined $Na_2CO_3 \times 1/1.71$ = Combined Na_2O

Eq. 4. Combined $Na_2O \times 18/62$ = H_2O equivalent to Combined Na_2O

Eq. 5. Total Solids — Free Soda — Combined Na_2O + H_2O equivalent to Combined Na_2O = Total Rosin

Some will undoubtedly question why in Eq. 5 the H_2O equivalent to the combined Na_2O is added. Consider the structure of abietic acid and take two molecules, which can be represented by RCOO—H, where R represents the abietic acid radical. Two RCO—H molecules of the sodium salt can be written as RCOO—Na. Un- RCO—ONa questionably, the Na_2O equivalent to the combined soda ash is that which is included in the circle drawn and, if this is subtracted from the total solids or from the total combined sodium soap, the result is not two molecules of abietic acid but rather abietic anhydride. To obtain the equivalent in acid or rosin, it is necessary to add the water equivalent to the Na_2O which was subtracted.

Eq. 6. Combined Soda $\times$ 6.119 = Sodium Resinate.

Eq. 7. Combined Soda $\times$ 5.704 = Rosin Combined in the Sodium Resinate

Eq. 8. Total Rosin — Eq. 7. = Free abietic acid + Unsaponifiable

Now, if the titration method is standardized so as to give reliable values for free abietic acid, then by subtracting the free abietic acid from equation 8, the unsaponifiable matter is obtained. The ultimate structure of the size and the true condition in which it exists can be reported as:

Water, Sodium Resinate, Free Abietic Acid, Unsaponifiable, and Free Soda Ash

As stated at the very beginning, however, such knowledge is only of value to the curious ones wishing to know ultimate structures. Such knowledge is of little value under ordinary operating conditions.

Although the above calculations are somewhat theoretical, some idea of how they compare with actual determinations can be obtained from the following table.

Sample No.	Total rosin determined	Total rosin calculated
1	66.7	66.7
2	58.9	59.0
3	56.1	56.2
4	66.6	66.7
5	66.6	66.6
6	57.5	58.0
7	56.5	56.8
8	58.5	59.0
9	66.5	66.8
10	55.8	56.0

The variations noted are no greater than the accuracy usually required of an ordinary rosin size analysis.

Summary

Through a series of tests made on rosin sizes in conjunction with a theoretical consideration of the laws of chemistry especially as applied to the hydrolysis of the salts of weak acids, such as abietic acid, the following conclusions have been reached:—

1. Because of hydrolysis, free rosin extraction tests on rosin size give misleading information. Results obtained by such tests give not only the true free abietic acid, but also the unsaponifiable matter and some rosin hydrolyzed from the combined rosin. These errors are greater with neutral size than with high free rosin size.

2. The results obtained by free rosin extraction tests vary considerably depending on the exact procedure used. The degree of dilution materially affects the results.

3. Since combined rosin tests are made either on the wash waters from free rosin extractions, or by subtracting such free rosin values from total rosin determinations, any errors in these free rosin determinations will affect the figures reported as combined rosin.

4. Free rosin by titration gives reliable results capable of being checked and is a measure of the grade of size. As an indication of what condition the size enters the reaction in the beaters, it is practically useless. It has possibilities for development into a method for determining ultimate structures.

5. Total rosin determinations are unnecessary as sufficiently accurate values can be obtained by calculations based upon the total solids and soda tests.

6. The soda tests can be made accurately. By simple calculations based on these soda tests it is possible to determine accurately the combined and free rosin. It has been shown that variations in the soda content of rosin size, even between neutral and high free rosin sizes, can have but little bearing on the practical alum requirements in the beater, due to far greater variations in stock and water conditions.

7. The total solids test indicates the relative strength of the paste. It is of primary importance to the users of rosin size. All the information necessary to the practical consumer of rosin size in the paper mill can be obtained from simple calculations based upon the total solids and soda tests.

Farm Products in Industry

George M. Rommel, foremost farm economist, is the author of "Farm Products in Industry" which Rae D. Henkle Company (New York) are publishing in June.

As an expert attached to the United States Department of Agriculture for twenty years, as a lecturer at Columbia University and for five years as an agricultural consultant, Mr. Rommel has gained an international name as an authority on farm problems. In the autumn of last year he was engaged by the Department of Agriculture as a technical consultant to make a survey pertaining to the industrial utilization of farm products, and particularly of farm waste.

"Farm Products in Industry" is based in part on this survey supplemented by further independent studies, and in compiling his data Mr. Rommel had the cooperation of 13 government bureaus, 13 State Agricultural Experiment Stations, 14 National Scientific and Trade Associations and 33 industrial corporations. For the first time the complete picture of farm waste and its economic value is authoritatively placed before the American people in a practical, non-technical and well illustrated volume.

The comprehensive character of "Farm Products In Industry" is indicated by the contents table, which covers: The Live Stock Industry; Cotton; The Forestry Situation, including the development of lumber substitutes; Corn as a Source of Cellulose; The Cost Factor with Corn; Cellulose from Small Grains; The Use of Corn Crain in Manufacturing; Cellulose from Minor Crops, including flax, hemp, sugar-cane, soybeans, peanuts, etc; Cellulose Content of Plants; Miscellaneous Manufacturing Uses of Farm fural, etc.; Oil and Rubber From American Farms.

China Clay Boats Arrive at South Haven

South Haven, Mich., May 21, 1928.—With the arrival of two Norwegian vessels carrying China Coating Clay at South Haven, Sunday, May 13, being followed on Tuesday by another, all sailing from Fowey, England, South Haven has again demonstrated the practical and economic advantages of the direct all-water route.

The South Haven Terminal Company recently organized and incorporated composed of South Haven's leading business men will handle all export and imports over the municipal dock. Plans are now completed and appropriations made for the erection of a 200x75 foot warehouse directly adjacent to the municipal dock and the railroad facilities. With this warehouse completed which it is expected will be within the next forty-five days, South Haven will offer even greater advantages to importers of China Coating Clay and wood pulp, who desire to take advantage of the all-water route.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Making Industry

Clarence J. West, Chairman

Colloidal Chemistry in Paper Making. Rudolph Lorenz. Bumazhnaya Promishlennost No. 2, 88-93 (Feb. 1927). Paper Trade J. 85, No. 12, 56-58 (Sept. 22, 1927). A discussion showing that paper making is essentially a physico-capillary and colloidal-chemical process.—A. P.-C.

Significance of Hydrogen Ion Concentration in the Manufacture of Paper. H. Roschier. Papers-Och Travaruti Dskrift for Finland, No. 13, 446-450 (July 15, 1927); Pulp and Paper 25, 1165-1166 (Sept. 15, 1927). A discussion of the mechanism of foaming of stock, bringing out the action of alum, gelatin or other colloids on rosin soap and the high foaming properties of sulphite liquor or bleach liquor residues in stock.—A. P.-C.

Curling and Buckling Most Serious Source of Paper Trouble. Helen U. Kiely Pulp and Paper 25, 1185-1187 (Sept. 22, 1927). An explanation of the meaning of "relative humidity" and of its effect on paper in causing curling and buckling.—A. P.-C.

Use of Treated Wood for Machine Room Roofs. George D. Bearce. Paper Trade J. 85, No. 7, 51 (Aug. 18, 1927). Discussion of the relative merits of untreated wood, treated wood and so called semi-permanent (concrete, gypsum) roofs for paper machine rooms, showing the superiority of a properly treated wood roof. The "Wolman sales" process, consisting in impregnating with sodium fluoride, dinitrophenol and a bichromate, is said to be very effective in prolonging the life of wood, even to the extent of lasting as long as semi-permanent roofs.—A. P.-C.

Craig's Blottings and Covers. Century-old Firm's Enterprise. Anon. World's Paper Trade Rev., 88, 994-997 (Sept. 23, 1927). Historial sketch of the development of the firm of Craig & Sons, Ltd. with mills at Caldercruix, Lenarkshire, and at Moffet, near Airdrie.—A. P.-C.

Yellowing of Paper. M. Marini. Bol. staz. sper. Carta 6, 16-9 (1927). Document paper and paper for artistic prints yellow easily through the oxidation and heating of ligneous products, resin, tinting colors, imperfect bleaching. Klemm determined the yellowing by extracting 3 grams of paper with ether-alchol (2.1) for 6 hours, evaporating the extract, incinerating, dissolving in hydrochloric and extimating the iron with potassium thiocyanate. Paper can contain 0.0002 to 0.01 per cent of organic iron. Resin and change color. When paper containing resin is exposed to sun rays it becomes yellow and soluble in cold weak alkalies or water. Winkler proposed, in the absence of ligneous matter, forming nitric acid and ammonia for detecting yellowing. Long exposure to directed and diffused sunlight gives better results. Trials with ultra-violet rays do not always concord with spontaneous or natural yellowing, and are only used in the absence of sunlight, Ageing trials by warming in damp air at 50° and 95° from 24 to 200 hours give good results. The trials are conducted against a standard paper.—C. J. W.

Diamond State Fibre Co.'s New Plant. Anon. Pulp and Paper, 25, 1131-1132 (Sept. 8, 1927). Brief description of the company's new plant at Toronto.—A. P.-C.

Thunder Bay Paper Co. E. C. Smith. Pulp and Paper 25, 1061-1064 (Aug. 25, 1927) Brief history of the company since its entering the Canadian field, with a description of the mill at Port Arthur, Ont.—A. P.-C.

Growth of Fort Frances. Anon. Pulp and Paper 25, 1035-1036 (Aug. 18, 1927). Outline of the development of the Fort Frances mill of Fort Frances Pulp & Paper Co.—A. P.-C.

New Hinde and Dauch Mill. Anon. Pulp and Paper, 25, 1029-1030 (Aug. 18, 1927). Descriptive of the new mill recently started up at Trenton Ont. A. P.-C.

Stream Pollution in Wisconsin. C. M. Baker, L. F. Warrick, E. J. Tully, O. J. Muegge, J. P. Smith and C. L. Turner. Paper Trade J. 85, No. 10, 43-47 (Sept. 8, 1927). A joint report of the Conservation Commission and State Board of Health of Wisconsin concerning activities in the control of stream pollution, from July 1, 1925 to December 31, 1926. Preliminary investigations with samples of sulphite waste liquor indicate that its oxygen demand can be reduced approximately 50% by forcing air into it through the pores of a basswood block, apparently confirming the opinion that a large part of the initial demand is for direct chemical oxidation of the unstable constituents The oxygen demand for periods of from 12 hours to 5 days can be reduced 76% to 92% by ponding (storing in an open reservoir or pond) and aeration. Cooling and settling of the waste liquor in the storage reservoir is much more effective in reducing the oxygen demand than aeration over a cascade spillway. It is believed that the initial oxygen demand, or that responsible for the immediate depletion of oxygen in a stream just below a sulphite mill, is materially, if not completely, satisfied during the 2 to 3 days settling period. The report covers a study of the chief streams in Wisconsin as to the degree of pollution, the main source of which is the pulp and paper industry.—A. P.-C.

Measuring, Sampling and Testing Pulp and Paper Mill Waste. W. L. Stevenson. Paper Trade J. 85, No. 6, 54-56 (Aug. 11, 1927). A description of the various methods of measuring and sampling paper mill effluents, with a brief outline of the analytical technic to be used in testing them and the method of expressing the results.—A. P.-C.

Events Which led to the Introduction of Woodpulp as a Paper Making Material. Harrison Elliott. Pulp and Paper 25, 931-932 (July 21); 1195 (Sept. 22, 1927); Paper Mill 50, No. 31, 22, 26 (July 30, 1927); Paper Trade J. 85 No. 4, 45-46 (July 28, 1927), Paper Makers Monthly J. 65, 327, 329 (Aug. 15, 1927). Brief chronological summary of significant experiments that led to the introduction of wood plup as a paper making material of marketable value.—A. P.-C.

Some Recent Progress in the Cellulose Industries. M. Brot. Papier 30, 841-847 (Aug. 1927). An address briefly reviewing some of the more important progresses in established processes, new processes which have not yet reached the stage of commercial application, and special phases such as pulps for the rayon industry and wood substitutes.—A. P.-C.

Fidalga Pulp Drying System. R. D. Kehoe. Paper Mill 50, No. 33, 4, 8 (Aug. 13, 1927). A discussion of its merits—A.P.C.

Chemical and Physical Properties of Non-Ferrous Castings. S. R. Francis, Pulp and Paper 25, 1140-1141 (Sept. 8, 1927). A brief outline of the most important chemical and metallurgical features affecting the selection and purchase of bronze for various services in the pulp and paper industry.—A. P.-C.

Fixation of Basic Dyes by Vegetable Parchment. Abel Caille. Chimie Et Industrie 17, 201-202 (Feb. 1927); Paper Trade J. 85. No. 3, 53 (July 21, 1927). Experiments which are described show that the fixation of basic dyes, particularly of methylene blue, is due entirely to the sulphuric acid present in parchmentized paper, the amount of dye fixed increasing with the sulphuric acid content.—A. P.-C.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

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THOS. J. BURKE, C. A., Sec.-Treas.

The Cost of Cost Accounting*

By E. F. Papworth[1]

For the past fifteen or twenty years there has been an increasingly insistent demand on the part of general managers, financial officers, and industrial engineers for more accurate and up-to-the-minute cost statistics. The fact that we are discussing the cost of cost accounting here this morning, I think you will agree, is an indication that there is a slight reaction setting in after all of this somewhat feverish quest for the truth about our business. We still want to know enough of fundamental truths to enable us to conduct our business successfully, but we are gradually getting beyond the position where we are willing to pay for the accumulation of filing case after filing case of data in neat and orderly form, which is seldom, if ever used. In other words, we are beginning to scrutinize the costs of compiling our records and to weigh carefully their value. Like anything else, to be in a healthy stable position, our cost departments must be worth a little more than they cost to stay in business.

My thought along this line was given considerable stimulus about a year ago by the receipt of a letter from the newly appointed works manager of a successful western automobile company. This man is an engineer and, prior to this position, I believe had been engaged in construction work on factory buildings, etc., for a well known firm of construction engineers. As he is naturally a fast and energetic worker and was very desirous of improving the profit showing of his company, he no sooner got his feet on the ground than he began operating on their overhead.

Expense, Material, Spoilage, Etc.

So far as factory indirect labor, expense material, spoilage, etc., were concerned, I gathered from the tone of his communication that he had been quite successful, but in spite of his best efforts he was surprised at the very large number of purely clerical workers who seemed to be necessary from some angle or other, to the conduct of the business. He could not bring himself to the point of seeing how a bunch of people sitting around at desks and making marks on expensive printed and ruled forms and dashing hither and yon with a business-like air, with a sheaf of paper in either hand, could possibly be of any material assistance to him in building a better car for less money. Maybe he has altered his viewpoint by now, I do not know, but his original attitude was certainly interesting and stimulating to me. To see how his overhead in this respect compared with others, he gave me some figures which appear in column "A" of the following table. Columns "B" and "C" are figures on as nearly a comparable basis as possible from an eastern automotive parts factory and a household necessity manufacturer, respectively.

COST OF PAYROLL AND COST ACCOUNTING FOR ONE MONTH

	A	B	C
Shop Clerks	$1,125.00	$2,640.00	$2,610.00
Payroll Department	660.00	918.00	1,700.00
Costs	2,790.00	1,414.00	457.00
Tabulator	.....	.....	528.00
	$4,575.00	$4,972.00	$5,295.00
Direct Labor, same period	80,500.00	92,400.00	95,500.00
% Payroll & Cost Accounting Expense to Direct Labor	5.7%	5.4%	5.5%

You will notice that, so far as productive labor dollars measure size, the three plants are about of a size. The job confronting the payroll and cost departments of the three organizations must be very different, however. Take the matter of wage payment plans alone, "A" was largely group bonus, "B" was 90 per cent individual piece work, and "C" had several different plans, including a rather complicated profit-sharing plan based on length of service, etc. The astonishing thing is that with all of these many variables the ratio of payroll and cost accounting expense to productive labor is so nearly alike in the three cases. Mind you, I am not saying that this coincidence justifies the expenditure of something over a nickel per productive labor dollar in any of these cases, but I do say that it is 5.5 per cent overhead in which it behooves this group of men and women to be vitally interested.

Swinging a Mean Axe

If we do not concern ourselves with these things, some new general manager, works manager, comptroller, efficiency expert or what not, with prying eye and judicial mind may come along and make a fine showing for himself by swinging a *mean* axe in our departments. I am here today to suggest that we beat him to it, make our own analysis of our own situations, and get such changes made as our analysis proves to be desirable so that when any of the here-in-before mentioned gentlemen shows up he will have nothing but commendation for our performance. Probably many of us are not heads of departments of any kind but merely hold down an accounting desk of some sort. At least you can analyze your own jobs with cold judicial eye and attempt to arrive at a better appreciation of the relation of your particular function to the business as a whole. If, after thorough and painstaking consideration you decide that certain portions of your work are not worth while or that they could be simplified and improved, talk it over with your boss at the proper time. At least, this will show that you are thinking about your work, as well as the baseball score, tonight's date, etc. Of course, if you approach him in the wrong way at the wrong time, he may fire you on the spot; but, who can tell, maybe that would be the best thing that could happen to you if you are not engaged in useful and inter-

* N. A. C. A. Bulletin.
[1] Brown-Lipe Chapin Co., Div., General Motors Corp., Syracuse, N. Y.

esting work which taxes your present capacity to somewhere near the limit.

What can be done to reduce the cost of cost accounting? For convenience, let us sub-divide our analysis under these main classifications: 1, The Job; 2, The Equipment; 3, The Personnel.

These items will be considered in turn.

The Job

Knowing well that I am treading on dangerous ground even to mention this phase, may I venture to suggest that some of our cost systems are top heavy with too much detailed information. Thousands of direct labor tickets per week and thousands of indirect labor tickets! You know what I mean, the quantity of pieces of paper to be priced, extended and tabulated is enormous. Some times in your experience, as well as my own, a single operator may change his card from 12 to 20 times a day. This means work for factory clerks, for the payroll department, and for the cost department. It is dangerous to generalize on these things but it certainly seems to me that when it becomes necessary under a certain system for a man to walk to a clock and change his card any oftener than once per hour, something is wrong with the system. If any of you have tried to operate a blue print and operation cost scheme in a plating or japanning department, where perhaps three or four people handle a hundred or more different parts per day through five or six operations, you know what I am talking about. Perhaps the blue print and operation cost scheme is ideal for these same parts through the foundry, punch press or other machining operations, but when we come to such operations as dipping, spraying, plating, tumbling, wiring up and unwiring, something else should be done. The obvious solution is to use the blue print and operation or special order system on the operations where they fit, and to have general operation or standing operation numbers for those operations which are common and practically identical for a large number of blue print or order numbers, perhaps sub-dividing your product into three or four classes on each operation.

This will materially cut down the number of time cards and will generally produce more satisfactory costs both from the standpoint of computation and application to cost of sales.

Effect on Clerical Costs

Perhaps some one here who is better versed than I am on standard costs will tell us the effect of such a system on clerical costs. I should certainly think it would be much more economical than some of the other systems. As I understand it, a standard cost system works on the "exception" principle. That is, the 90 per cent of your detailed data representing material at standard cost, is shoved aside at one fell swoop and labeled "standard," while the remaining 10 per cent, or the "non-standard" portion, is gone over with a fine tooth comb, analyzed by causes and referred to some executive in condensed and intelligent form for his information and action. If I am wrong in this brief description, I trust that some of our standard cost friends will publicly set me right before the close of this meeting. At any rate, the thought of handing cost information to operating executives in simple and condensed form so it will be understood and used, I think we all agree, is a good one. There is no joy to the average general manager, works manager, superintendent or foreman, in voluminous reports containing page after page of neatly tabulated figures. They may say out of sheer awe, "This is a fine piece of work" but ten chances to one they will throw it down unread and even if read, not understood. What these men want are a few ratios and figures which will express to them in simple terms the efficiency of the various departments of their business.

I came across a shining example of this sort of thing in the way of a spoilage report to superintendent and foremen. The cost department consolidated and listed all of a department's spoilage by part number and operation number, showing total cost, including material, labor and overhead for each item. In some departments the result was a sheaf of single-spaced typewritten sheets about the thickness of the American Magazine. Everyone was "flabbergasted" at the enormity of their sins but no improvement resulted. These same data condensed to a single table which would conveniently fit on one-half of a letter size sheet, showing quantity of pieces spoiled in each of six or seven major classes of parts, average cost each, total cost, per cent spoiled of O. K. produced, against an objective per cent spoiled (representing very good practice) and given the right kind of publicity throughout the organization, has resulted in various steps being taken to reduce the spoilage loss nearly 50%. Let us not try to impress our colleagues and superiors with the profundity and complexity of our knowledge and jobs, but rather let us reduce our reports to lowest terms so that they will be read, understood and acted upon.

The Group Bonus

Speaking of vast volume of time cards, there is one type of wage payment plan which, while providing ample incentive for individual productive effort, keeps the volume of clerical and accounting work down to a minimum. This is group bonus.

Originally, having received my early training under Gantt, Emerson, and Knoeppel, I was a "dyed in the wool" individual incentive exponent and it was my firm conviction that each man's product should be counted separately and that his pay should be based on this count. In processing departments like plating rooms and heat-treating departments, however, I was forced to admit that individual piece work, or other individual incentives fell down, through sheer difficulty of application.

To make a long story short, we tried the standard form of General Motors group bonus in our heat-treating and shipping departments, because it was the only thing we knew of which could be worked under the conditions existing in these departments. It worked so well in these places that we are gradually substituting the group plan for individual piece work throughout the shop, even on operations where individual counts can easily be obtained.

As some of you may not be familiar with this plan of payment, I will briefly outline its operation.

Operation of the Plan

1—A department or shop is divided into natural groups from 6 to 40 men or operations. A group should consist of operations which are more or less alike or inter-dependent for production showing.

2—A careful time study is made for each operation to be performed within the group and an accurate standard set.

3—The group is charged with the number of man hours actually put in during a payroll period.

4—The group is credited with the standard hours of work finished during the period.

5—Group efficiency equals credits divided by debits or output divided by imput and is expressed as a percentage.

6—Percent bonus is based on per cent efficiency using a curve of the Emerson or Knoeppel type.

7—Each man in the group receives the same per cent bonus for the time put in but base rates are varied on account of length of service, skill, behavior, etc., the same as any other day rate scheme resulting in varying bonus and total earnings.

For each group then, there is a daily debit or time sheet and a credit slip for each class of product produced. A man goes from one operation to another within the group without changing cards and it is unnecessary to count the product until it leaves the group. There are several advantages to this plan of wage payment, which we have not time to discuss here, but there is one which concerns us vitally and that is, the elimination of a considerable amount of clerical work in the factory, payroll department and cost department, through the elimination of individual counts of production and individual time cards. If there are any questions in this connection, I shall be glad to answer them when we come to the discussion.

Sometimes general managers or company officers make unusual

demands upon accounting and cost departments for data not readily available, which requires some digging to get out. The tendency usually is for the accounting department to prepare working papers, sometimes at the expense of considerable effort and time, to enable them to give these data up-to-the-minute in good "snappy" fashion the next time it is asked for, or perhaps it will be automatically prepared and submitted to the "big boss" regularly after the first inquiry, whereas he only needed or wanted it under one particular set of circumstances. The chances are that he will never think of the cost of compiling the report and will not ask for its discontinuance unless the matter is brought to his attention.

It pays periodically to inventory the reports emanating from our departments and check them against their actual usefulness to the people to whom we are furnishing them. If they are not much used, ask for permission to cut them out, or cut them out without saying anything and watch what happens.

Along this same line too many reports are being typed or copied long-hand where the original working papers in pencil, if neatly done, would serve just as well. I have seen several nice little stenographic copying jobs discontinued after a careful study of the real utility of their product. Another advantage of using the original papers is that the time of copying is saved and the data reach the place where they can do some good just so much quicker.

What Practically Useless Things Cost

If we are to be held responsible by management for the cost of operating our departments—and we shall be sooner or later—let us show management what some of the practically useless things we are expected to do actually cost. I have seen managers ask for cost on a complicated assembled product "right off the griddle," reflecting last week's labor figures and to-day's material costs. The cost department would work feverishly, burning "mid-night oil" in some cases and the result would be a plus or a minus of two of three cents on a product costing around $20.00 as compared with the cost used in last month's cost of sales.

In passing, I cannot refrain from mentioning what mathematicians call "order of accuracy." Before we carry all of our average unit costs of labor, material, etc., out four or five places to the right of the decimal point, let us make a few tests to determine what the effect would be if we should drop off the last digit or two, rounding the number up or down as the case may be. You will be surprised to observe how impotent those digits to the extreme right are in their effect on the final result, and if you use calculating machines of the comptometer type, by dropping a few unimportant digits here and there your number of calculations per operator per day will be decreased and the cost reduced. Of course, it is trite to say that good management and planning are as essential to successful cost work as to any other branch of business. Let us watch out for peaks and do everything possible to avoid them, for when we have radical peaks and valleys of effort, there is a decided tendency to be over-manned part of the time at least. It costs extra to rush work through and does not help its accuracy, so let us avoid rush jobs, wherever possible. We must give prompt and efficient service if our reports are to be of utmost value, but let this promptness and efficiency be a matter of routine rather than emergency.

Do not be afraid to talk your internal problems over with other department heads and your superiors. In many instances, frank discussion of these things will result in a readjustment of the things they require of you and your department which will lead to more being accomplished by your department and at a lower cost.

Equipment

So far as concerns the equipment we already have in our offices, I think all of our mistakes may be summed up for practical purposes by the statement that "too much office equipment is 'sold' and not enough 'bought.' Next to the insurance salesman, I think there is none of the high pressure type more than the office equipment salesman.

Is there any reason why the same brand of scientific analysis and thought should not be used in the selection of office machines as we find commonly in use in the selection of machine tools for the average factory? The various cost factors as depreciation, upkeep, and labor cost of one method should be balanced against those incidental to the present method, or other proposed methods, and no new investment, outside of replacements or expansions, should be made which will not pay for itself within two or three years in *actual* savings.

Ordinarily, machine posted records are nice things to have from the standpoint of appearance, but I dare say these are placed where hand posting is more economical and just as good from a practical viewpoint.

Visible Index, Vertical Cards, and Loose Leaf Ledgers, all have certain points of advantage for certain installations and yet the salesman of any one of these types of equipment will glibly tell you, in many cases, that his particular style of record is the best, without any far reaching investigation. Do not depend too much on what somebody else says. Make your own investigation and analysis and arrive at your own conclusions. What fits in some other payroll or cost department may not fit your case at all. In the choice of equipment, do not let anyone hurry you. You are probably "getting by" all right now, and as your new equipment will have a useful life of at least five years, you can afford to be somewhat careful in its selection.

In connection with the purchase of equipment, have you ever noticed that it is easier to secure permission from some managements to put another name on the payroll at $1,000 a year than it is to secure consent to avoid the addition to the payroll through the purchase of a $500 machine? Sometimes it seems as if we use a different pair of glasses for "Payroll dollars" than we do for "Invoice dollars." We seem to regard the former as unavoidable and the latter as something to be avoided even in the face of our better judgment. Where this condition exists, let us try to encourage a more rational point of view by sound arguments of all kinds.

Printed Forms

Before leaving this material side of our job, we should at least mention printed forms. Many of us have too many forms and these of non-standard sizes and extravagantly designed and printed. There is no better way to familiarize yourself with the clerical and paper work of the concern than to study its printed forms and the uses to which they are put. I have personally O. K.'d every purchase requisition for printed forms originated by my firm for the past four years. During this time a saving of at least 50 per cent has been made in the printing bill or an amount equal to the salary of the purchasing agent. These matters are too often delegated to the office boy to handle. This saving was made in the following different ways:

1—Standardizing sizes to cut economically.

2—Increasing quantities to economical quantities to order thereby reducing composition and press work cost per 1,000.

3—Substitution of cheaper stock which serves just as well.

4—Reduction of size of forms through more efficient use of space.

5—Buying from the source which is equipped to produce at minimum cost—i. e., buying tags from the tag companies; correspondence pads from sales book companies; time cards from time card companies; etc. In short, we employ specialists when there is any economy in so doing.

6—Eliminating forms which investigation shows to be of little or no real value to the business as a whole. In this connection we should remember that when we cut out a form which is used only indifferently, we not only save the cost of printing the form, but we also save the time of

the person who has to write upon it. In many cases the latter saving far out-weighs the former.

Of course, to do these things, one must know something about print shops costs, how they are affected by quantities; pen rule versus print rule, sulphite bond versus rag ledger stock, manila versus high-grade index Bristol, etc., but these are things which can readily be picked up from your job printer if you go to him with your jobs and ask him how they can be done more economically.

In a city like Rochester or Buffalo there is little or no economy in operating one's own print shop for factory forms. It used to be almost an axiom that if enough quotations were secured on a certain job, some one or more of them would be at or below cost. This situation has improved of late years, however, and the job printer knows something about cost accounting, thanks to his trade associations.

If you have not already done so, look into your total printing bill not only for accounting forms but all sorts of forms; its size will surprise you.

This is a delicate subject to discuss as we have quite a few of the personnel right here and they are better equipped for self defense than printed forms and the other things so far discussed. I do not know what your experience has been, but I am astonished at the number of men who are around applying for office positions. And, furthermore, many of them appear to be quite competent. The indications are that quite a proportion of these men will have to seek jobs in some other lines such as production or sales, if they are to keep profitably employed. In our territory (Central New York) I account for this situation in the following three ways:

1—The increasing use of women in clerical and accounting work.

2—The simplification and standardization of accounting procedure and the increasing use of machines.

3—Consolidations of business into larger units, with the result, in some cases, that one office does the work formerly done by two or more. You will agree, I think, that all of these factors are at work, whether we like it or not, and we might as well face facts.

Of course, there is the old argument that you no sooner get a girl broken in on a job than she gets married and you have to start all over again. This is still true to some extent, but with us there is quite a tendency for women to stay in our employ after marriage. Our ratio of women to men in payroll and cost departments is approximately 5 to 1, which is higher than ever before but may go still higher in the future. Our heads of departments and possibly their first assistants are men but women do the bulk of the work, and why not? Certainly I know of no work which is better suited to women than routine clerical work. For the most part they are more alive mentally, quicker, more accurate and better contented with the wages they receive than men working at similar jobs. Mind you, I said routine work. When it comes to contact with shop people, the public and officers of the company, I do not know of many women who would qualify. There is no doubt, however, that there will be an increasing number of women in these positions in the next fifty years. They have the brains, and some of them have a great willingness to learn and apply themselves to their jobs. Under proper supervision and instruction it is wonderful what quantity and quality of work they will run out.

A moment ago I mentioned that our ratio of women to men has lately increased considerably. This was not done by laying off perfectly good men and replacing them with women. In fact, I think it is safe to say that our men remaining are hardly aware that any change has taken place. As men have quit or were transferred to other work, we have selected a bright girl clerk, stenographer, or calculating machine operator who looked like a fit candidate for the job and put her on it. To our surprise, in several instances she has walked away with the load in better shape then the man who preceded her.

If you have men posting, calculating, typing, distributing labor or material, or any of these routine jobs, for which standard practice instructions may be developed, you have an opportunity to make a saving through gradual substitution of women.

Morale in an office, as in any group of people, is an important factor in performance. There is nothing more destructive to morale and loyality than treating clerical workers as if they were a commodity. They are individuals and deserve treatment as such. Of course, one must have certain hiring rate and certain maximum rates beyond which it is not customary to go. However, when an outstanding worker comes along, one for example who is about twice as good as the average we are willing to tolerate, let us recognize this extra ability or capacity by a wage somewhat beyond the maximum ordinarily paid for the class of work involved. Where they are really deserved, one or two rates of this sort in a department will have a very stimulating effect on the whole personnel. There will be a tendency for them all to strive for this same recognition, whereas, if an understanding gets abroad that $25 per week is top money for a certain job, there is a decided tendency for the $25 people to lose heart and to deliver just about $25 worth of work.

I do not believe this applies to every one in this group but once in a while we used to run across an office executive who judged his own importance and value and felt that others were doing likewise, by the number of people working under his jurisdiction or in his department. This is the same fellow who has a lot of push buttons where he can reach them at convenient intervals, particularly when there are callers present. He is also likely to be addicted to the "in conference" habit. Let us "be ourselves" and not try to "kid" any one as to our real importance in this world. When we die, things will go along just as well, or perhaps better.

We only need enough people in a department to handle the work after it has been simmered down to lowest terms. By not having any unused capacity, we keep everybody busy and out of mischief and more contented than when they have to bluff at being busy. Let us make a few informal time studies of our various operations and make out work schedules for our people based on liberal time standards for the actual amount of work on hand to be done.

You may well ask what all this has to do with the cost of cost accounting. I think it has a lot to do with it, for after the task has been set, either by us or for us, it is our job to see that it is sufficiently and economically accomplished.

After about a year of application of the policies and ideas outlined here this morning, under the headings of The Job, The Equipment, and The Personnel, I was interested to see some new figures for Company B, which you will remember is an Eastern automotive parts plant. These are given below:

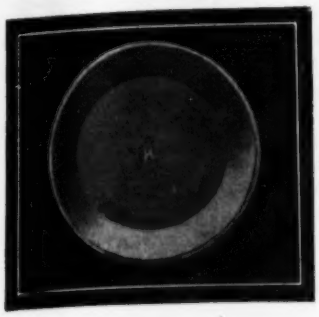
COST OF COST ACCOUNTING—PLANT B

Shop Clerks	$2,640.00	$2,340.00
Payroll Department	918.00	800.00
Cost Department	1,414.00	1,279.00
Total	$4,972.00	$4,419.00
Direct Labor, same period	$92,400.00	$102,285.00
% Payroll & Cost Accounting Expense to Direct Labor	5.4%	4.3%

You will observe that in spite of an increase in volume of approximately 10%, the dollar labor cost of operating these departments has decreased over $500 and the percentage of cost accounting expense to productive labor has decreased 20%. This is progress in the right way, but the man in charge in this institution tells me there is still room for improvement.

This whole matter is not so much one of what our present costs of cost accounting are, but rather what is their tendency, upwards, or is it downwards?

This is the *Plate*



on which 90% of the Jobbers are building their business

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NEWS PRINT IN CANADA

(*Continued from page 25*)

"As mentioned in the annual report, you will be asked to ratify at this meeting the action of your directors in disposing of the part of your company's holdings in the Quebec Development Company, Limited which were held by the trustee as collateral security, under the trust deed securing the first mortgage bond issue of your company. This action was made necessary in order that your company's holdings in the Quebec Development company, Ltd. should be treated as a unit and the final realization in due course of this valuable asset be made with the utmost benefit to your company. I may add that this part sale has enabled your company to finance the extensions at River Bend without further issue of securities or the drawing upon your company's liquid resources."

Howard Smith Issue

Following the formation of the new Howard E. Smith Paper Mills Company, it is officially announced that there will be no change in the management of the business. C. Howard Smith will continue as president and Harold Crabtree as managing director. Other directors will be James W. Pike, J. Alexander Cameron, Howard Murray, E. R Decary and W. D. Robb, as well as Sir Herbert S. Holt, George Chahoon, Jr., J. H. Gundy, George M. McKee and W. E. Wilder, the five latter directors having been added as a result of the formation of the new company.

Announcement is made of a new bond issue of $7,000,000, the bonds being for 25 years at 5½ per cent interest.

The company is the largest manufacturer of fine papers in Canada, having a capacity of thirty-thousand tons annually, shortly to be increased to 38,500 tons, addition to which, through a subsidiary, it controls a bleached soda pulp mill with rated capacity of 15,000 tons per annum. The company operates three paper mills, namely, at Cornwall, Ont., Beauharnois, Que., and Crabtree Mills, Quebec, all of which are in a high state of operating efficiency.

Valuable Power Rights at Auction

On Wednesday of this week the Quebec Government is offering on lease at public auction the rights of the Government on the water powers of the St. Maurice river, from its confluence with the Manouane river down to the prolongation of the dividing line between the townships of Dumoulin and Vallieres, in the county of Champlain.

The requirements on bidders are rather stringent. Interested parties will be under obligation to deposit one million dollars by accepted cheque to the order of the Minister of Lands and Forests, at least ten days before the auction. This deposit will be forfeited should the applicant put up no bidding, and will be refunded to the unsuccessful bidders after the auction, while the deposit of the successful bidder will be retained as a guarantee until the development of the power has been completed. The party or parties who lease the water power will have to carry out development work to the value of $25,000,000 and the contract to be entered into will contain a clause by which it will be forbidden to export any of the energy produced to the United States.

It is estimated that the energy to be developed will be between 100,000 and 150,000 horse power.

The general impression is that the Shawinigan Water & Power Company, which owns most of the water power rights on the river, will secure the leases.

Visit to Gatineau Power Plants

At the invitation of Senator Smeaton White, president of the Montreal *Gazette* and a director of the Intetrnational Paper Company, a party of 65 senators and officials of the Senate during the week visited the Gatineau Power Company's plants at Farmer's Rapids, Chelsea and Paugan Falls. With the completion of the work at these plants, the Gatineau Power Company which is a subsidiary of the International Paper Company, will rank as one of the largest hydro-electric power companies on this continent At present that company owns waterpower sites in Quebec province with an aggregate potential capacity exceeding 700,000 horsepower.

Paper Concerns Interested in Trade School

DAYTON, Ohio, May 21, 1928.—The Gardner-Harvey Paper Company, the Advance Bag Company, the Bevis & Shartle machine shops, the American Rolling mills and other plants, some of which are identified with the paper trade, have joined the trade school movement in Middletown, an important project.

For a number of years paper manufacturers have recognized the need of more trained men—men who may come from the ranks of the workers, whose knowledge of the business has been grounded into them by experience from young manhood on up to the full fruition of their usefulness.

With the fact in view that the future will require many skilled workers, a delegation of Middletown foremen representing the Foremen's club, an organization with a membership of 400, consisting of heads of departments of the majority of Middletown's industrial plants, conferred the past week with R. W. Solomon, superintendent of the public schools, urging that a trade branch be established as a part of the public high school system in Middletown.

Foremen asserted that a survey shows unmistakably that many youths in the Paper City desire a high school education, but do not contemplate attending college, and intend to become mechanics The foremen declare such pupils would profit to a greater extent if they could take a high school course that would assist them in the profession they may choose at a subsequent date.

The foremen explained that already they have arranged with a number of concerns, several of which are mentioned above, and that arrangements with others will be completed, giving assurance of the practicability of the plan.

These companies will permit the students to use tools and machinery in their plants, it was explained to the school superintendent, and everything would be done to promote their welfare.

It also was stated that the companies would pay the students amounts to be decided upon for work they perform in the mills and factories.

French Paper Market Depressed

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 21, 1928.—While French paper manufacturers have universally complained of the depression in the paper industry during the past year, which has necessitated working on a part time basis, and even closing down, of a number of mills, makers of newspapers and other cheaper grades of paper appear to have been affected by these conditions rather than the makers of the finer papers. The former have not only had to contend with the depression in the French paper market but at the same time have to meet keen competition from foreign paper makers in the domestic as well as in overseas markets. French news print manufacturers in particular have been loud in their complaints of the effects of the reparations payments in their branch of the industry. Manufacturers of straw wrappings also complain of the difficulty of successfully meeting the competition encountered from cheap German wrapping papers. At the same time, imports of paper and paper products, consisting to a large extent of newsprint and wrapping papers, were approximately 25 per cent under the volume of the preceding year, and a like decrease was registered in arrivals of paper base stocks, upon which French manufacturers of the coarser grades of paper are largely dependent.

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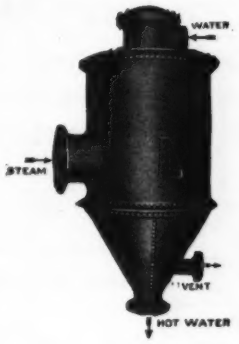

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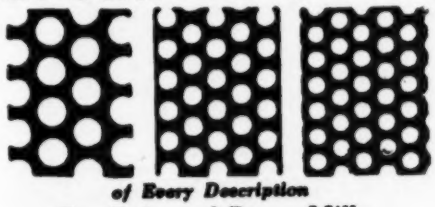

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NEW YORK IMPORTS

WEEK ENDING MAY 19, 1928

SUMMARY

Cigarette paper .....376 cs., 2 bls.
Wall paper .....22 bls., 11 cs.
Paper hangings .....63 bls., 40 cs.
News print .....1,333 rolls
Printing paper .....100 rolls, 61 bls., 302 cs.
Sulphate paper .....447 rolls
Pergamyn paper .....8 cs.
Drawing paper .....19 cs.
Filter paper .....19 cs.
Packing paper .....33 rolls, 42 cs., 4 bls.
Wrapping paper .....49 cs.
Colored paper .....4 cs.
Photo paper .....6 cs.
Surface coated paper .....139 cs.
Gallic paper .....3 cs.
Baryta coated paper .....161 cs.
Coated paper .....13 cs.
Decalcomania paper .....38 cs.
Writing paper .....51 cs.
Envelopes .....29 cs.
Silk paper .....2 cs.
Tissue paper .....4 cs.
Parchment paper .....3 rolls
Carbon paper .....1 cs.
Stencil paper and ink .....104 cs.
Straw paper .....34 bls.
Straw boards .....378 rolls
Miscellaneous paper .....138 bls., 120 cs.

CIGARETTE PAPER

P. J. Schweitzer, Pr. Adams, Marseilles, 57 cs.
Max Spiegel Sons Co., Inc., Pr. Adams, Genoa, 2 bls.
Standard Products Corp., Ile de France, Havre, 90 cs.
De Manduit Paper Corp., Indep. Hall, Havre, 229 cs.

WALL PAPER

A. C. Dodman, Jr., Inc., Berengaria, Southampton, 3 cs., 3 bls.
Heemsoth Basse & Co., Muenchen, Bremen, 1 ble.
F. J. Emmerich, Hamburg, Hamburg, 4 bls.
Bendix Paper Co., Hamburg, Hamburg, 6 cs.
R. F. Downing & Co., Minnewaska, London, 2 bls.
F. J. Emmerich, Celtic, Liverpool, 6 bls.
F. A. Binder, Geo. Washington, Bremen, 6 bls.
J. E. Bernard & Co., Olympic, Southampton, 1 cs.
Cassiddy Hicks Wallpaper Co., Westphalia, Hamburg, 1 cs.

PAPER HANGINGS

Whiting & Patterson Co., Inc., Berengaria, Southampton, 8 cs.
Whiting & Patterson Co., Inc., Olympic, Southampton, 3 cs.
Whiting & Patterson Co., Inc., Mauretania, Southampton, 7 cs.
W. H. S. Lloyd & Co., Samaria, Liverpool, 12 cs.
W. H. S. Lloyd & Co., Tuscania, London, 58 bls., 10 cs.
A. C. Dodman, Jr., Inc., Celtic, Liverpool, 5 bls.

NEWS PRINT

Parson & Whittemore, Inc., Muenchen, Bremen, 1,092 rolls.
Perkins, Goodwin & Co., Muenchen, Bremen, 132 rolls.
O. Ray, Drottningholm, Gothenburg, 109 rolls.

PRINTING PAPER

Dingelstedt & Co., Veendam, Rotterdam, 5 cs.
Judson Freight F'd'g Co., Veendam, Rotterdam, 25 cs.
C. Steiner, Veendam, Rotterdam, 16 cs.
E. Dietzgen & Co., Veendam, Rotterdam, 88 cs.
Kenneddy & Co., Veendam, Rotterdam, 3 cs.
Keuffel & Esser Co., Hamburg, Hamburg, 100 rolls.
P. C. Zuhlke Pennland, Antwerp, 136 cs.
Oxford University Press, Celtic, Liverpool, 4 cs.
Snow Shipping Co., Pr. Adams, Marseilles, 25 cs.
J. I. Bernitz, Naples Maru, Hamburg, 61 bls.

SULPHATE PAPER

Insight Paper Co., Bergensfjord, Oslo, 447 rolls.

PERGAMYN PAPER

F. C. Strype, Hamburg, Hamburg, 8 cs.

DRAWING PAPER

Keuffel & Esser Co., Hamburg, Hamburg, 18 cs.
Keuffel & Esser Co., Tuscania, London, 1 cs.

FILTER PAPER

C. Schelicher Schull, Hamburg, Hamburg, 13 cs.
H. Reeve Angel & Co., Inc., Tuscania, London, 6 cs.

PACKING PAPER

Haule Wax Paper Manfg. Co., Hamburg, Hamburg, 37 cs.
Pennsylvania Bag Co., Pennland, Antwerp, 33 rolls.
W. J. Bonan, G. Washington, Bremen, 4 bls.
S. Gilbert, G. Washington, Bremen, 5 cs.

WRAPPING PAPER

Birn & Wachenheim, Pennland, Antwerp, 49 cs.

COLORED PAPER

Borden Riley Paper Co., Pennland, Antwerp, 4 cs.

PHOTO PAPER

J. J. Gavin, Samaria, Liverpool, 3 cs.
Gerhard & Hey, American Shipper, London, 3 cs.

SURFACE COATED PAPER

Whiting & Patterson Co., Inc., Hamburg, Hamburg, 5 cs.
P. C. Zuhlke, Pennland, Antwerp, 55 cs.
Gevaert Co. of America, Pennland, Antwerp, 79 cs.

GALLIC PAPER

Keuffel & Esser Co., Tuscania, London, 3 cs.

BARYTA COATED PAPER

Globe Shipping Co., G. Washington, Bremen, 161 cs.

COATED PAPER

Globe Shipping Co., Westphalia, Hamburg, 13 cs.

DECALCOMANIA PAPER

C. W. Sellers, G. Washington, Bremen, 1 cs.
L. A. Consmiller, G. Washington, Bremen, 11 cs.
B. F. Drakenfeld & Co., Celtic, Liverpool, 19 cs. (duplex); 7 cs. (simplex).

WRITING PAPER

L. Bamberger & Co., Waukegan, Havre, 2 cs.
Abraham & Strauss, Waukegan, Havre, 2 cs.
American Express Co., Waukegan, Havre, 2 cs.
R. H. Macy & Co., Berengaria, Southampton, 2 cs.
J. E. Bernard & Co., Berengaria, Southampton, 1 cs.
Gallagher & Ascher, American Shipper, London, 3 cs.
C. Bruning & Co., Pr. Adams, Marseilles, 36 cs.
J. E. Bernard & Co., Olympic, Southampton, 1 cs.
J. P. Morgan & Co., Olympic, Southampton, 1 cs.
B. Altman & Co., Mauretania, Southampton, 1 cs.

ENVELOPES

J. Beckhard & Co., Inc., G. Washington, Bremen, 29 cs.

SILK PAPER

H. D. Catty & Co., Veendam, Rotterdam, 2 cs.

TISSUE PAPER

G. W. Sheldon & Co., Minnewaska, London, 2 cs.
B. F. Drakenfeld & Co., Celtic, Liverpool, 2 cs.

PARCHMENT PAPER

Eisch Schuerman Corp., Anaconda, Rotterdam, 3 rolls.

CARBON PAPER

J. C. Murray Co., Hamburg, Hamburg, 1 cs.

STENCIL PAPER AND INK

Arlac Dry Stencil Co., Hamburg, Hamburg, 104 cs.

STRAW PAPER

American Express Co., Hamburg, Hamburg, 34 bls.

STRAW BOARDS

A. Vuyk, Veendam, Rotterdam, 3 cs.
Perkins Goodwin & Co., Veendam, Rotterdam, 136 rolls.
R. Wilson Paper Corp., Coahoma County, Antwerp, 173 rolls.
C. H. Powell, Eastern Dawn, Antwerp, 76 rolls.

MISCELLANEOUS PAPER

Kolesch & Co., Veendam, Rotterdam, 3 cs.
Tamm & Co., Veendam, Rotterdam, 11 cs.
Int'l F'd'g Co., Hamburg, Hamburg, 9 cs.
Keller Dorian Paper Co., Ile de France, Havre, 14 cs.
Perkins Goodwin & Co., Ile de France, Havre, 18 cs.
R. F. Downing & Co., Ile de France, Havre, 11 cs.
Standard Products Corp., Ile de France, Havre, 36 cs.
P. J. Schweitzer, Ile de France, Havre, 5 cs.
S. Gilbert, G. Washington, Bremen, 13 cs.
C. K. MacAlpine, Drottningholm, Gothenburg, 138 bls.

RAGS, BAGGING, ETC.

J. Cohen Son, Inc., Waukegan, Havre, 12 bls. rags.
G. W. Millar & Co., Inc., Waukegan, Havre, 170 bls. rags.
B. D. Kaplan, Waukegan, Havre, 6 bls. rags.
Overton & Co., Waukegan, Havre, 95 bls. bagging.
V. Galaup, Waukegan, Havre, 232 bls. rags.
E. J. Keller Co., Inc., Waukegan, ——, 72 bls. bagging; 68 bls. rags.
Van Oppen & Co., Waukegan, Dunkirk, 46 bls. rags.
R. Bishop Manfg. Co., Waukegan, Dunkirk, 176 bls. rags.
Darmstadt Scott & Courtney, Waukegan, Dunkirk, 52 bls. rags.
G. W. Millar & Co., Inc., Waukegan, Dunkirk, 170 bls. rags.
A. W. Fenton, Inc., Muenchen, Bremen, 161 bls. rags.
Van Oppen & Co., Muenchen, Bremen, 52 bls. thread waste.
B. D. Kaplan, Muenchen, Bremen, 8 bls. rags.
Phila. Girard Natl. Bank, River Orontes, Alexandria, 645 bls. rags.
Salomon Bros. & Co., River Orontes, Alexandria, 69 bls. rags.
V. Galaup, Rigel, Leghorn, 55 bls. rags.
E. J. Keller Co., Inc., Veendam, ——, 38 bls. rags.
G. W. Millar & Co., Inc., Veendam, Rotterdam, 199 bls. rags.
E. Burrows, Samaria, Liverpool, 11 bls. rags.
B. D. Kaplan, Samaria, Liverpool, 10 bls. rags.
A. W. Fenton, Inc., Hamburg, Hamburg, 94 bls. rags.
E. J. Keller Co., Inc., Hamburg, ——, 22 bls. rags.
Castle & Overton, Inc., Tuscania, London, 136 bls. rags; 54 lbs. bagging.
Mutnick Bros., Celtic, Liverpool, 9 bls. rags.
D. M. Hicks, Inc., Eastern Dawn, Antwerp, 36 bls. flax pulp.
Darmstadt Scott & Courtney, Eastern Dawn, Antwerp, 32 bls. jute waste.
E. Mayer, Naples Maru, Hamburg, 94 bls. rags.
J. B. Moors & Co., London Corp., London, 60 bls. rags.
Banco Com'l Italiane Trust Co., Clontarf, Genoa, 46 bls. bagging.
Banco Com'l Italiane Trust Co., Clontarf, Leghorn, 250 bls. old cottons.
V. Galaup, Clontarf, Leghorn, 317 bls. rags.
American Woolstock Corp., Clontarf, Leghorn, 42 bls. rags.
Interstate Trust Co., Clontarf, Naples, 97 bls. rags.
B. D. Kaplan, Mercier, Antwerp, 5 bls. rags.
Hill Ingraham & Co., Mercier, Antwerp, 20 bls. rags.
American Exchange Irving Trust Co., Westphalia, Hamburg, 49 bls. thread waste.
Castle & Overton, Inc., Boden, Antwerp, 198 bls. waste.
Castle & Overton, Inc., Lalande, So. America, 110 bls. rags.

OLD ROPE

E. J. Keller Co., Inc., Rigel, ——, 195 bls.
N. E. Berzen, Rigel, Barcelona, 36 coils.
W. Steck & Co., Veendam, Rotterdam, 30 bls.
Brown Bros. & Co., Veendam, Rotterdam, 174 coils.
Montell & McDonough, Munamar, Nassau, 8 bls.
R. Canovai Sons, Clontarf, Palermo, 249 coils.
E. J. Keller Co., Inc., Indep. Hall, ——, 70 bls.

CASEIN

T. M. Duche & Sons, Lalande, B. Aires, 1,668 bags.
Tradesmans Natl. Bank, Vauban, B. Aires, 834 bags.

WOOD PULP

E. M. Sergeant & Co., Bergensfjord, Oslo, 160 bls. wood pulp.
Woodpulp Service Corp., Bergensfjord, Oslo, 800 bls. wood pulp.
Atterbury Bros., Inc., Bergensfjord, Oslo, 500 bls. wood pulp
Chemical National Bank, Bergensfjord, Oslo, 360 bls. wood pulp.
Perkins Goodwin & Co., Bergensfjord, Drammen, 125 bls. wood pulp.
Castle & Overton, Inc., Hamburg, Hamburg, 534 bls. wood pulp, 80 tons.
N. Y. Trust Co., Hellig Olav, Oslo, 150 bls. wood pulp.

(Continued on page 74)

FAIRBANKS' "SPHERO"

The Perfect "Blow-Off" Valve

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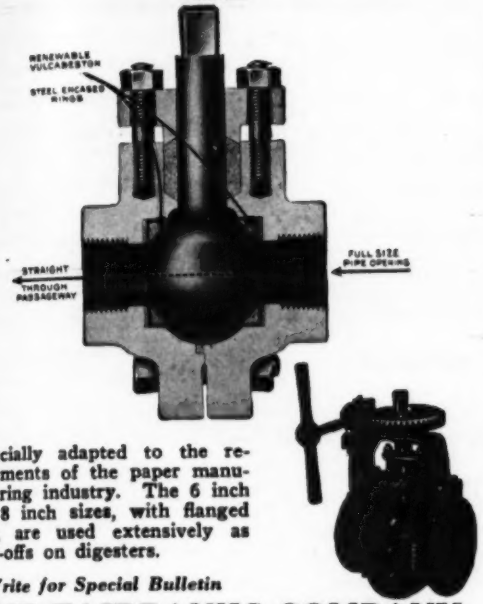

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For Brown Paper Mill Co. ..... 3430 H.P.
Central Paper Co., Muskegon, Mich., four orders, total ..... 3100 H.P.
Philadelphia Paper Mfg. Co., Phila., three orders, total ..... 2400 H.P.
Jessup & Moore Paper Co., Phila., four orders, total ..... 4750 H.P.
Ontario Paper Co., Ltd.
For Daily Newspaper Co., North Tonawanda, N. Y. ..... 2034 H.P.
Filer Fibre Company, Filer City, Mich. ..... 1500 H.P.
John Lang Paper Co., Philadelphia, Pa..... 416 H.P.
Bayless Manufacturing Corp., Austin, Pa..... 1300 H.P.
Northern Board & Paper Co., San Francisco, Cal., two orders, total ..... 400 H.P.
Crown Willamette Paper Co., San Francisco, Cal., two orders, total ..... 750 H.P.
Delaware Hard Fibre Co., Wilmington, Del., two orders, total ..... 920 H.P.
Kieckhefer Container Co., Delair, N. J. ..... 1800 H.P.

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122 East 7th St., Los Angeles, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

Imports of Paper and Paper Stock

(*Continued from page 72*)

E. J. Keller Co., Inc., Naples Maru, Hamburg, 336 bls. wood pulp, 51 tons.
E. M. Sergeant & Co., Drottningholm, Gothenburg, 299 bls. dry soda pulp.
Atterbury Bros., Inc., G. Washington, Bremen, 285 bls. wood pulp, 47 tons.

WOOD PULP BOARDS

C. K. MacAlpine & Co., Drottningholm, Gothenburg, 84 bls.

WOOD FLOUR

B. L. Soberski, Bergensfjord, Frederickstad, 1,500 bags.
The Burnet Co., Anaconda, Rotterdam, 1,000 bags, 50,000 kilos.

BALTIMORE IMPORTS

WEEK ENDING MAY 19, 1928

Castle & Overton, Inc., Eastern Dawn, Antwerp, 616 bls. rags.
Congoleum Nairn Co., Eastern Dawn, Antwerp, 288 bls. rags; 126 bls. bagging.
Congoleum Nairn Co., Indep. Hall, Havre, 146 bls. rags.
National City Bank, Clontarf, Genoa, 362 bls. rags.
Congoleum Nairn Co., Clontarf, Leghorn, 50 bls. rags.
Phila. Girard Natl. Bank, Clontarf, Naples, 174 bls. bagging.
E. J. Keller Co., Inc., Burgerdyk, ——, 600 bls. wood pulp.
Castle & Overton, Inc., Naumburg, Germany, 1,034 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING MAY 19, 1928

Citizens Bank, Clairton, Manchester, 60 bls. bagging.
British American Tobacco Co., Eastern Dawn, Antwerp, 62 cs. printed cigarette wrappers.
E. J. Keller Co., Inc., Western Ally, ——, 38 bls. rags.

BOSTON IMPORTS

WEEK ENDING MAY 19, 1928

Chase National Bank, Texas, Oslo, 2,685 bls. wood pulp.
International Purchasing Co., Pr. Adams, Marseilles, 50 rolls rope.
Bulkley Dunton & Co., Anaconda, 500 bls. wood pulp, 100 tons.
Castle & Overton, Inc., Lorain, Germany, 1,382 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING MAY 19, 1928

Castle & Overton, Inc., Missouri, Antwerp, 45 bls. bagging.

NEWPORT NEWS IMPORTS

WEEK ENDING MAY 19, 1928

British American Tobacco Co., Eastern Dawn, Antwerp, 52 bls. wrapping paper.

PHILADELPHIA IMPORTS

WEEK ENDING MAY 19, 1928

Castle & Overton, Inc., Waukegan, Havre, 329 bls. rags.
American Exchange Irving Trust Co., Waukegan, Havre, 137 bls. jute waste; 79 bls. rags.
J. M. Jaffe, Waukegan, Havre, 33 bls. rags.
V. Galaup, Waukegan, Havre, 170 bls. rags.
E. J. Keller Co., Inc., Waukegan, ——, 114 bls. rags.
Robert Blank, Waukegan, Dunkirk, 51 bls. rags.
Robert Blank, Waukegan, Havre, 104 bls. rags.
Castle & Overton, Inc., Waukegan, Dunkirk, 163 bls. rags.
Chase National Bank, Texas, Copenhagen, 200 bls. wood pulp.
Castle & Overton, Inc., Rigel, Barcelona, 118 bls. rags.
E. J. Keller Co., Inc., Rigel, Barcelona, 47 bls. rags.
E. A. Stone, Rigel, Valencia, 188 bls. rags.
American Exchange Irving Trust Co., Rigel, Valencia, 96 bls. rags.
E. A. Stone, Coahoma County, Antwerp, 69 bls. rags.
F. Butterworth & Co., Inc., Coahoma County, Antwerp, 90 bls. rags.
Castle & Overton, Inc., Coahoma County, Antwerp, 87 bls. rags.
Fidelity Trust Co., Coahoma County, Antwerp, 229 bls. rags.
Equitable Trust Co., Coahoma County, Antwerp, 243 bls. rags.
International By Products Co., Coahoma County, Antwerp, 35 bls. rags.
Chase National Bank, Anaconda, Rotterdam, 49 bls. rags.
E. J. Keller Co., Inc., Anaconda, ——, 74 bls. rags.
Green Hamilton & Co., Anaconda, Rotterdam, 68 bls thread waste.
S. Specter & Co., Anaconda, Rotterdam, 68 bls. old carpets.
International By Products Co., Anaconda, Rotterdam, 70 bls. old cottons.
G. W. Millar & Co., Inc., Anaconda, Rotterdam, 39 bls. rags.
E. J. Keller Co., Inc., Sinsinawa, ——, 92 bls. rags.
Castle & Overton, Inc., Boston City, England, 296 bls. rags.
Castle & Overton, Inc., ——, Japan, 120 bls. rags.
Castle & Overton, Inc., Lehigh, England, 297 bls. rags.
Castle & Overton, Inc., Manchester Corp., England, 261 bls. rags.
Castle & Overton, Inc., Winifredian, England, 117 bls. rags.
Castle & Overton, Inc., Naumburg, Germany, 2,200 bls. wood pulp.

News Print Production for April

Production of news print in Canada during April 1928 according to the News Print Service Bureau amounted to 196,645 tons and shipments to 193,443 tons. Production in the United States was 117,553 tons and shipments 118,453 tons, making a total United States and Canadian news print production of 310,198 tons and shipments of 311,896 tons. During April, 17,772 tons of news print were made in Newfoundland and 1,025 tons in Mexico, so that the total North American production for the month amounted to 328,995 tons.

The Canadian mills produced 114,028 tons more in the first four months of 1928 than in 1927, which was an increase of 17 per cent. The United States output was 47,385 tons or 9 per cent less than for the first four months of 1927. That in Newfoundland 6,115 tons or 9 per cent more and in Mexico 280 tons more, making a total North American increase of 73,038 tons or 6 per cent over the first four months of 1927.

During April the Canadian mills operated at 84.3 per cent of rated capacity and the United States at 83.8 per cent. Stocks of news print paper at Canadian mills totalled 46,641 tons at the end of April and at United States mills 33,734 tons, making a combined total of 80.375 tons, which was equivalent to 5.5 days' average production.

Paper Concerns to Build at Monroe

KALAMAZOO, Mich, May 21, 1928.—Two paper concerns in Monroe, Mich., announce building programs for this year. The Monroe Paper Products Company has started the erection of a $40,000 addition to engage in the manufacture of cartons. It will be a concrete and brick structure.

The Barrett Paper Products Company of that city, suffered a fire loss recently in excess of $40,000. President Frank J. Bohan announces the concern will rebuild at once and on a much improved and larger scale.

National Supply Congress to Meet in New York

W. J. Peacock, Northern Paper Mills, Green Bay, Wis., chairman of the Pulp and Paper Section of the National Safety Council, has just sent the following message to members:—

"The National Safety Congress, October 1-5, will be especially well-located for the Paper and Pulp Section. The bulk of our membership is east of Ohio while the pull of New York should bring an unusual attendance from western mills.

"The program committee already has a line-up assured that will give us the strongest available speakers.

"The Cup contest has 125 mills interested, centering attention on records, rules an' sich, and judging from the pace being set the interest in the outcome should prove a great drag for attendance. To keep up the interest the judges this year will maintain the utmost secrecy. In addition, such is the pull of our contest that other sections are following it with keenest attention.

"We are certain of the biggest attendance in the history of the section. At the Waldorf-Astoria we may expect all the comforts and contacts of perfect hospitality. It will be the chance the section has desired to win in its own bailiwick, the East. Make your plans to be present, and write in for room reservation at once."

K. V. P. Co. Installs Special Telephone Equipment

KALAMAZOO, Mich., May 21, 1928.—Special telephone equipment, cost in excess of $11,000, has been placed in the new administration building of the Kalamazoo Vegetable Parchment Company by the Michigan Bell Telephone Company, according to W. O. Best, local manager of the latter concern.

A dial telephone private branch exchange that will accommodate 100 dial telephone extensions within the establishment and much auxiliary equipment has been installed. The K. V. P. switchboard will be connected with the central telephone office by eight trunk lines.

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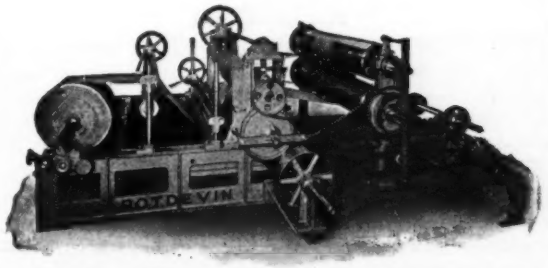

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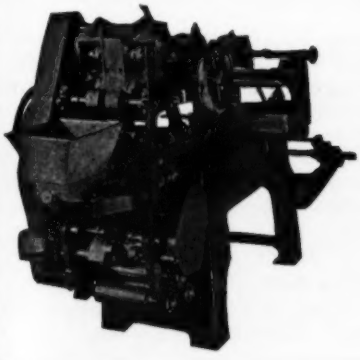

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, May 23, 1928.

Although the local paper market was only moderately active during the past week, the industry is considered to be in a sound position. Demand for the various grades is fairly satisfactory and prices are being maintained at former levels. Shading is infrequent. Sales organizations of the leading paper houses are still busy and anticipate a good volume of business before the warm weather arrives.

News print production is running at approximately 83 per cent of capacity and the demand is about normal for the season. Contract withdrawals are proceeding in a regular manner. Spot offerings of news print are sufficient for current requirements. Prices are fairly steady though there are persistent reports of concessions on desirable orders.

No radical changes have transpired in the paper board market. Box Board production is reported to be slightly ahead of consumption. Prices are unaltered. The fine paper market is rather spotty at present but prices are holding to schedule. Some improvement has been noticed in the coarse paper market, while wrapping paper is still in excellent request.

Mechanical Pulp

Contract shipments of ground wood are going forward in good volume. The spot demand, however, is rather light at present. Production is quite large enough to take care of the prevailing requirements. Quotations on both imported and domestic mechanical pulp are being well maintained, in most instances.

Chemical Pulp

Offerings of imported chemical pulp are said to be limited and the market is steady to firm. Bleached sulphite is still quoted at from $3,65 to $4.25, ex dock, Atlantic ports. No. 1 kraft is selling at from $2.60 to $2.75. Mitscherlich unbleached is offered at from $2.65 to $3.25. Domestic chemical pulp prices are generally unaltered.

Old Rope and Bagging

Mill demand for imported and domestic old rope shows some signs of improvement. Offerings are not unduly excessive at present and prices are holding to former levels without difficulty. The demand for bagging is mostly routine. Most of the business transacted last week was for immediate requirements. Prices remain unaltered.

Rags

Conditions in the rag market are practically unchanged. Imported roofing rags are still in good request, although other foreign grades continue quiet. The domestic rag market is fairly active. Roofing stock and cotton cuttings are in particularly good request. Prices are holding up fairly well.

Waste Paper

The paper stock market is exhibiting a strong undertone. Book stock is decidedly firm. Old kraft machine compressed bales are in steady request. Soft white shavings are displaying considerable strength. Other grades of waste paper are also showing improvement and prices are generally holding to formerly quoted levels.

Twine

Demand for the various grades of twine is along routine lines at present. Wrapping paper is reported to be still moving in good volume and the immediate outlook for the twine industry is encouraging, at least. Prices are generally being maintained without difficulty and there is not much talk of concessions around.

J. S. Wiley Addresses New York Paper Salesmen

There was another excellent attendance at the regular meeting and luncheon of the New York Division of the Salesmen's Association of the Paper Industry at the Canadian Club on Monday. Dr. E. O. Merchant ably demonstrated one of his business charts on car loadings, showing their importance as a key to trade conditions.

J. S. Wiley, president of the Bureau of Envelope Manufacturers of America, who was the guest speaker, gave an interesting and informative address on the envelope industry which was greatly appreciated.

Mr. Wiley discussed the merits of the various grades of paper used in envelope manufacture, viz., white wood envelope, kraft, manila, and sulphite bond. He declared that what the envelope manufacturer particularly desired was paper that would cut well, fold well, and possess strength.

He also explained the campaign of his organization against the use of return corner cards on Government stamped envelopes, which he declared were printed at less than cost in competition with private interests. Mr. Wiley's enjoyable address was followed by a lively discussion.

Container Corp. Acquires Western Plant

An agreement has been entered into whereby the Container Corporation of America will acquire the western board mill properties of the Robert Gair Company, known as the Chicago Coated Board Plant, according to an announcement by Walter P. Paepcke, president of the Container Corporation.

Merging of the production of the Chicago Coated Board Plant with the production of the Container Corporation increases daily tonnages of box board of latter to 1,200 tons a day, the largest daily production in the industry. As a result of consolidation the production facilities of the Robert Gair Company will be concentrated in New York State and New England. The Robert Gair Company will continue to be the largest operating company in the eastern field.

The twelve plants of the Container Corporation are located in Philadelphia, Chicago and the intervening territory. Merging of the activities of the Chicago Coated Board Mill of the Robert Gair Company with the mill properties already in operation in the Chicago district will result in operating economies.

The newly acquired plant is located on the north bank of the Chicago River within a mile of the Loop district and within short trucking distance of raw material supply and the Ogden plant of the Container Corporation.

Whiting Paper Co. Adds Two Mill Trimmers

The Whiting Paper Company, of Holyoke, Mass., has added two 64 inch mill trimmers to the equipment of its new mill.

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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, May 23, 1928.

BLANC FIXE.—While business in the blanc fixe market was rather quiet during the week no radical price changes were recorded. The pulp is still quoted at $60 per ton, in bulk, while the powder is offered at from 4 cents to 4¼ cents a pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market was moderately active. Supplies are moving into consumption in a routine manner. Prices remain unaltered. Bleaching powder is offered at from $2 to $2.35 per 100 pounds, in large drums, at works, according to quantity and grade.

CASEIN.—Trading in the casein market was fairly active. Prices were unchanged. Domestic casein is selling at from 15½ cents to 17 cents a pound. Imported casein is still quoted at from 16 cents to 17 cents a pound, all in bags, car lot quantities.

CAUSTIC SODA.—Contract withdrawals of caustic soda are proceeding at a satisfactory pace. Prices are generally holding up to schedule. Solid caustic soda is offered at from $2.90 to $2.95 per 100 pounds. The flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—Steadiness prevails in the china clay market. Demand for this product is seasonal. Prices are unaltered. Imported china clay is quoted at from $15 to $25 a ton, in bulk, ship side. Domestic paper making clay is selling at from $8 to $9 a ton, at mine, and pulverized at from $10 to $12 a ton.

CHLORINE.—Demand for chlorine is fairly persistent. Prices are holding to schedule without much difficulty. Chlorine is offered at 3½ cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation ranges from 3¾ cents to 4 cents a pound.

ROSIN.—The rosin market was slightly steadier during the week and no radical price changes were recorded. At the naval stores gum rosin is selling at from $8.65 to $8.95 per 280 pounds, ex dock, in barrels. Wood rosin is selling at from $6.50 to $7.30 per 280 pounds, southern shipping points.

SALT CAKE.—Conditions in the salt cake market are somewhat easier. Contract shipments are going forward at a normal pace. Supplies are about sufficient to take care of current needs. Salt cake is now quoted at from $15 to $17 a ton, in bulk, at works. Chrome salt cake is offered at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—The undertone of the soda ash market is steady although competition is keen for desirable orders. Prices are holding up to previously quoted levels, in most instances. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½, and in barrels, $1.55

STARCH.—Although demand for starch has been only moderately active, the market is exhibiting a steady undertone. Recently advanced prices are being maintained and there is not much talk of concessions around. Special paper making starch is selling at $4.12 per 100 pounds, in bags, and at $4.29 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Judging by the number of inquiries being received the outlook for the sulphate of alumina market is promising. Commercial grades of sulphate of alumina are offered at from $1.40 to $1.55 per 100 pounds. The iron free is still quoted at from $1.90 to $2.05 per 100 pounds, in barrels.

SULPHUR.—The sulphur market is in a sound position. Supplies are moving into consumption in satisfactory volume. Prices generally remain unchanged at formerly quoted levels. Sulphur is selling at from $18 to $19 a ton, in bulk, at mine, on contract orders. The spot quotation is still $20 per ton.

TALC.—Normal conditions prevail in the talc market. Demand for this product is fairly active and supplies are moving into consumption in satisfactory volume. Prices remain unaltered. Domestic talc is quoted at from $16 to $18 a ton, at eastern mines, while imported talc is selling at from $18 to $22 a ton, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	4.50	@ 4.75
Southern	4.25	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

Boards—per ton—		
News	47.50	@50.00
Straw	52.50	@55.00
Chip	45.00	@47.50
Binders' Boards	65.00	@67.50
Sgl. Mla. Ll. Chip	52.50	@55.00
Wood Pulp	80.00	@85.00
Container	67.50	@72.50
85 test Jute Liner	57.50	@60.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	30.00	@31.25
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@29.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.65	@ 4.25
Easy Bleaching	2.70	@ 2.90
No. 1 strong unbleached	2.60	@ 2.70
Mitscherlich unbleached	2.65	@ 3.25
No. 2 strong unbleached	2.50	@ 2.60
No. 1 Kraft	2.60	@ 2.75
No. 2 Kraft	2.40	@ 2.50
Sulphate—		
Bleached	3.75	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.60	@ 2.75
News Sulphite	2.40	@ 2.65
Mitscherlich	3.00	@ 3.70
Kraft (Domestic)	2.70	@ 3.30
Soda Bleached	3.35	@ 3.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.65

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	11.75	@12.25
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.50	@11.00
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	6.75	@ 7.25
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.25	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.55	@ 1.65
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Dark Cuttings	2.75	@ 3.25
New Mixed Cuttings	3.00	@ 3.50
Ord. Light Prints	2.25	@ 2.50
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.50	@ 6.25
No. 3 White Linens	4.50	@ 5.00
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Med. Light Prints	1.90	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.50	@ 1.60
Shoppery	1.45	@ 1.55
French Blues	2.25	@ 2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.65	@ 1.75
Domestic	1.70	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, heavy	1.60	@ 1.65
Bright Bagging	1.60	@ 1.65
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	3.00	@ 3.10
Domestic	3.25	@ 4.00
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.25	@ 3.50
Hard, White, No. 2	2.75	@ 3.00
Soft, White, No. 1	2.60	@ 2.85
Flat Stock—		
Stitchless	1.85	@ 1.95
Overissue Mag	1.90	@ 2.00
Solid Flat Book	1.75	@ 1.80
Crumpled No. 1	1.35	@ 1.45
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.80	@ 1.90
Manilas—		
New B. B. Chips	.65	@ .75
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.75	@ .85
Container	.60	@ .70
Bogus Wrapper	.75	@ .85
Old Kraft Machine Compressed bales	1.80	@ 1.90
News—		
No. 1 White News	1.55	@ 1.65
Strictly Overissue	.80	@ .90
Strictly Folded	.60	@ .70
No. 1 Mixed Paper	.45	@ .50
Common Paper	.30	@ .35

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Twines

(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¾
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¾
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05½
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¾	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¾
White Tissue—			
20x30 Sheet	.07¼	@	.07½
Boards, per ton—			
(Delivered Central Territory)			
Plain Chip	37.50	@	41.00
Solid News	47.50	@	—
Manila Lined Chip	55.00	@	—
Container Lined—			
(Delivered Central Territory)			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.80	@	2.90
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.50	@	2.60
No. 1 Mixed	1.00	@	1.05
No. 2 Mixed	.90	@	1.00
Ledger & Writings	1.55	@	1.65
Solid Books	1.20	@	1.30
Blanks	1.70	@	1.80
Krafts	1.90	@	2.00
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.90	@	1.00
Folded News (overissue)	.65	@	.75
Old Newspapers—			
No. 1	.65	@	.75
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.70	@	.80
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.08½	@	.09
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05¼	@	.05½
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¾	@	—
Straw Board	60.00	@	65.00
News Board	47.50	@	50.00
Chip Board	42.50	@	45.00
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	80.00	@	90.00
No. 2, per ton	75.00	@	80.00
Carload lots	65.00	@	75.00
Tarred Felts—			
Regular	58.00	@	63.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.44	@	1.54
Best Tarred, 3-ply	1.93	@	2.08
No. 1 Mixed Paper	.65	@	.70

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	—	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03¾
New Canvas	.08	@	.09½
New Black Mixed	.05	@	.05½

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope	3.00	@	3.50
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps	1.40	@	1.50
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	—	@	2.50

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.25	@	3.35
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.40	@	2.50
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	2.00	@	2.10
Writing Paper	1.75	@	1.90
No. 1 Books, heavy	1.75	@	1.90
No. 2 Books, light	1.25	@	1.40
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container Manila	.80	@	.90
Old Kraft	2.25	@	2.50
Common Paper	.55	@	.60
No. 1 Mixed Paper	.55	@	.60
Straw Board, Chip	.65	@	.75
Binders Board, Chip	.65	@	.75
Overissue News	.80	@	.90
Old Newspaper	.55	@	.60

Domestic Rags (Old)

White, No. 1—			
Repacked	4.50	@	5.25
Miscellaneous	3.50	@	4.00
White, No. 2—			
Repacked	.02¾	@	.02¾
Miscellaneous	.02	@	.02¼
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.80	@	2.00
Black Stockings	3.75	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05½	@	.06½
No. 2 Kraft	.04¼	@	.05
Common Bogus	.02¾	@	.02¾
Delivered New England points			
Straw Board, rolls .009			57.50
Straw Board in Sheets, basis 35s to 70s			54.50 @ 55.00
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board			55.00 @ 60.00
Single White, patent coated board bender			72.50 @ 80.00
Wood Pulp Board			80.00 @ 85.00
Binder Boards			70.00 @ 75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots			65.00 @ —

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.10
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.60	@	—
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.50	@	—
No. 1 Books, Heavy	2.00	@	—
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	1.20	@	1.25
White Blank News	1.40	@	1.50
Old Kraft	1.90	@	2.00
Print Manila	.70	@	.80
No. 1 Mixed Paper	.45	@	.50
Overissue News	.70	@	.80
Old Newspapers	.50	@	.60
Box Board, Chip	.65	@	—

Bagging

(Price f. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.75
Domestic	1.60	@	1.70
Manila Rope—			
Foreign	2.80	@	3.00
Domestic	3.00	@	3.25
Mixed Strings	.95	@	1.00
Scrap Burlaps	1.40	@	1.50
Wool Tares, heavy	1.60	@	1.65
New Burlap Cutting	—	@	2.00

Domestic Rags (New)

(Price f. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.11	@	.11½
Silesias, No. 1	.07	@	.07½
New Unbleached	.09½	@	.10
Fancy	.05	@	.05½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.07	@	.07½
New Black, soft	.04	@	.04½
Khaki Cuttings	.05	@	.05¼
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)

(Price f. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	5.50	@	5.75
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.00	@	2.12½
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.80	@	1.90
No. 2	1.60	@	1.70
No. 3	1.25	@	1.37½
No. 4	1.25	@	1.37½

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.55	@	1.65
New No. 1 Shirt Cuttings	10.50	@	11.00
Dutch Blues	2.00	@	2.12½
Lace Curtains	5.00	@	5.50
New Checks & Blues	4.50	@	4.65
Old Fustians	1.90	@	—

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¾	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (carloads)	3.25	@	—
Sheets (carloads)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	14.50	@	—
No. 2 Coated and Litho	13.50	@	—
No. 3 Coated and Litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Rag	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.60	@	—

Pulp

(F. o. b. Mill)

Ground Wood	30.00	@	31.00
Sulphite easy bleaching	62.00	@	—
Sulphite news grade	62.00	@	—
Sulphite, bleached	75.00	@	—
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.80	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags

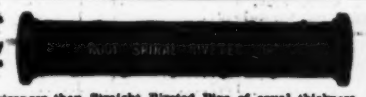
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.11½	@	—
Fancy Shirt Cuttings	.05½	@	—

Appleton
Felts and Jackets

JOHN WALDRON CORPORATION
Paper Converting Machinery Builders Since 1827
Main Office and Works—NEW BRUNSWICK, N. J.
CHICAGO NEW YORK

Bailey Meter Company
1056 Ivanhoe Road, Cleveland, Ohio
Specializing in
Power Plant Metering Equipment



Fully 50% stronger than Straight Riveted Pipe of equal thickness. Light weight and simplicity of bolted connections results in low handling and installation expense. Suitable for conveying Water, Air, Gas, Exhaust Steam and Wood Pulp.
Abendroth & Root Mfg. Co. Sales Office: Woolworth Bldg., N. Y.
Pipe Specialists Continuously Since 1867
See inside back cover June 7

Perforated Metal Screens
for every purpose
also elevator buckets of all kinds; chutes; hoppers stacks and tanks.
MITCO Products — Interlocked Steel Grating; Shur-Site Stair Treads; Armoregrids.
HENDRICK MANUFACTURING CO.
50 Dundaff St., Carbondale, Pa.
New York: 50 Church St.; Pittsburgh: 906 Union Trust Bldg.

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APPLETON, WIS.
Centrifugal and Triplex Pumps
For All Purposes
Designing Pumps to Fit All Conditions Our Specialty

Don't Guess at Important Matters
BOWSHER'S SPEED or MOTION
INDICATOR is indispensable
in obtaining a UNIFORM speed of machinery, and is one of the most PROFITABLE little devices ever put in a mill. Will pay for itself in 30 days. Dial 12 in. in diameter. Weight, 10 lbs.
The N. P. BOWSHER CO., South Bend, Ind.

GENERAL Aluminum Sulphate CHEMICAL
GENERAL CHEMICAL COMPANY 40 RECTOR STREET, NEW YORK

Appleton Wires
are good wires
APPLETON WIRE WORKS INC., APPLETON, WIS.

FOURDRINIER CYLINDER, WASHER WIRE
FOR SERVICE
GREEN BAY WIRE WORKS
GREEN BAY, WISC.

Salomon Bros. & Co.
IMPORTERS OF
All Grades of Rag and Paper Stock
200 FIFTH AVENUE, NEW YORK
COTTON WASTE :: LINTERS :: RAMIE

INTERNATIONAL PULP CO.
NEW YORK CITY
ASBESTINE PULP
FILLER 90% Retention
857. U. S. PATENT OFFICE

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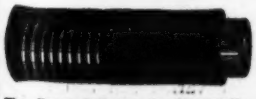
41 East 42nd St., New York
Paper and Woolen Mfrs.' Supplies
COTTON AND WOOLEN WASTE
Warehouse—Hoboken, N. J. Branch office—Holyoke, Mass.

"THE FOURDRINIER THAT TOOK THE IRE OUT OF WIRE"
INTERNATIONAL WIRE WORKS
Menasha, Wisconsin


WYCKOFF WOOD PIPE
Pressure Pipe That Never Bursts.
Built in sizes 1 inch to 48 inches.
The Paper Industry is successfully using thousands of feet of this Pipe and they find it to be the best conveyance for White Water, Paper Stock, and Acids that can be obtained.
A. Wyckoff & Son Company
1855 Elmira, N. Y., U. S. A. 1928

A. J. BRADLEY MFG. COMPANY
Oiled Stencil Board
Lamp Shade Parchment
IN A VARIETY OF GRADES AND COLORS
101 BEEKMAN STREET NEW YORK

Paper Mill Stocks and Bonds

Quoted by Messrs. McGay & Co., 25 Broad street, New York City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	ASKED
Abitibi Fibre Company 6s, 1947	100½	102
Abitibi Power & Paper 6s, 1940	104½	106½
Abitibi Power & Paper 6s, serially to 1934	100½	102½
A. P. W. Pulp & Power 7s, 1945	101½	103½
American Writing Paper 6s, 1947	89	91
Bastrop Pulp & Paper 6½s, 1940	103½	105½
Beaver Board 8s, 1933	102	103
Beaver Products Corp. 7½s, 1942	109	111
Bedford Pulp & Paper 6½s, 1942	98	100
Belgo-Canadian Paper 6s, 1943	103	105
British-Columbia Pulp & Paper 6s, 1950	90	92
Brompton Paper Serial A 6s, 1946	101½	103½
Brompton Pulp & Paper 6s, 1935	100	...
Brown Paper Mills Serial 6s, 1941	99	101
Brown Company 5½s, 1946	102	104
Bryant Paper 6s, 1942	100½	102
Canadian Paper Board 7s, 1937	97½	99½
Cape Breton Pulp & Paper 6s, 1932	103	...
Celotex Company 6s, 1929	97	99
Celotex Company 6½s, 1939	100	102
Celotex Company of Chicago Debenture 6s, 1936	97	100
Central Paper Company Serial 6½s, 1942	86	89
Central Paper 7s, 1934	85	90
Champion Coated Paper Serial 6½s, 1934	100	...
Champion Coated Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 8s, 1930	100	...
Champion Paper Corp. 6s, 1945	95	98
Chicago Mill & Lumber Serial 5½s, 1936	98	100
Container Corp. of America Debenture 6s, 1936, ex-warrants	96	99
Continental Paper Products 6½s, 1943	92	95
Cornell Wood Products 7½s, 1937	103	...
Crown Willamette 6s, 1951	102	103½
Dells Paper & Pulp Serial 6s, 1938	95	98
Dixon Board Mills Serial 6s, 1942	60	...
Donnacona Paper 5½s, 1948	97½	99
Eastern Manufacturing Co. 7s, 1938	98	100
Escanaba Paper Serial 6s, 1939	98	100
Escanaba Paper 6½s, 1935	96	99
Filer Fibre Serial 7s, 1935	90	95
Fort Orange Paper 7s, 1942	101½	103
Fort William Paper 6s, 1946	101	104
Fox River Paper 7s, 1931	100	...
Fraser Company 6s, 1950	103	105
Hammermill Paper Serial 6s, 1939	101	...
Hawley Pulp & Lumber 6s, 1946	96	...
Hawthorne Paper Company 6s, 1937	80	...
Hoberg Paper & Fibre 7s, 1937	95	97
Industrial Fibre Corp. Debenture 8s, 1933	100	...
International Paper 6s, 1955	104	106
International Paper 5s, 1947	100	102
Itasca Paper & Prairie River Paper Serial 5½s, 1938	99½	...
Itasca Paper & Prairie River Paper Serial 6s, 1938	99	...
Jessup & Moore First 6s, 1945	88	92
Kalamazoo Vegetable Parchment 6s, 1938	99	101
Lake Superior Pulp & Paper 6s, 1941	105	108
Manitoba Paper 6½s, 1936	102½	104½
Marathon Paper Mills Serial 5½s, 1942	99½	101
Marathon Paper Mills Serial 6s, 1937	100	...
Marinette & Menominee 7½s, 1936	103	105
Mead Pulp & Paper 5% Notes Serially, 1937	95	100
Mead Fibre 7s, 1937	98	101
Menosha Printing & Carton 6½s, 1939	99½	...
Midwest Box Company 6½s, 1940	100	...
Minnesota Ontario Paper Serial 6s, 1945	99	101
Murray Bay Paper 6½s, 1947	103	105
Munissing Paper Serial 6s, 1936	98	...
Nekoosa Edwards Paper 6s, 1942	96	...
Ontario Pulp & Paper 6s, 1931	108½	110½
Orono Pulp & Paper 6s, 1943	99	...
Orono Pulp & Paper 5s, 1941	96½	...
Oswegatchie Paper Serial 6s, 1932	95	100
Oswego Falls Corp. 6s, 1941	99	102
Oxford Paper 6s, 1947	102½	...
Oxford Paper 6s, 1947	102½	...
Paepcke Paper Mills 7s, 1930	99	...
Parker-Young Company 6½s, 1944	98	100
Paterson Parchment Paper 6s, 1938	101½	103
Penobscot Chemical Fibre 6s, 1942	102	105
Port Alfred Pulp & Paper 6½s, 1943	105	107
Port Alfred Pulp & Paper 5½s, 1947	98½	100
Price Brothers 6s, 1943	105	...
Provincial Paper 5½s, 1947	98½	...
Provincial Paper 6s, 1940	100	...
Queen City Paper 7s, 1933	97	100
Richardson & Company 6s, 1938	100	...
River Raisin Paper 6s, 1936	99	101
Riordan Pulp & Paper 6s, 1942	102	104
Rolland Paper 6s, 1937	99	101
St. Anne Paper 6½s, 1946	102	104
St. Croix Paper Serial 5s, 1937	99	...
St. Helen Pulp & Paper 6½s, 1931	99	102
St. Lawrence Paper Mills 6s, 1946	101½	103½
St. Lawrence Paper Mills 6½s, 1936	100½	102½
St. Maurice Valley Corp. 6s, 1945	102	104
St. Maurice Valley Corp. 5½s, 1947	98½	100½
St. Regis Paper of Canada 6s, 1931	100½	102
St. Regis Paper of Canada 6½s, 1934	100	101
Smith (Howard) Paper Mills 6s, 1934	101	...
Smith (Howard) Paper Mills 7s, 1941	104	106
Southern Paper Company 6½s, 1937	100	...
Spanish River Pulp & Paper 6s, 1931	108	110
Stewart-Thompson Paper 6s, 1942	94	96
Taggart Brothers 6s, 1944	95	100
Tait Paper & Color Industries 6s, 1935	90	93
Ticonderoga Pulp & Paper 5s, 1930	94	...
Ticonderoga Pulp & Paper 6s, 1940	100	103
Tomahawk Kraft Paper 6s, 1938	98	...
Tomahawk Pulp Paper 7s, 1932	99	...
Tonawanda Paper 5½s, Series 1941	99	102
U. S. Envelopes 5s, Series 1934	99	...
Union Bag & Paper Power 6s, 1932	98	100
United Wall Paper Factories 6s, 1947	96	99
Warren (S. D.) Company 6s, 1945	103	105
Watab Paper 6½s, 1942	102½	104½
Waterway Paper Products 6s, 1931	100½	101½
Wayagamack Pulp & Paper 6s, 1951	103	105
Westfield River Paper Serial 7s, 1943	89	93
Whitmer-Parsons Pulp & Lumber 8s, 1938	13	20
Whitaker Paper 7s, 1942	108	...

STOCKS	BID	ASKED
American Box Board, Pfd.	9¼	10¼
American Box Board, Com.	9¾	10¾
Am. Tissue Mills, 7% Pfd.	90	93
British Columbia P. & P., Pfd.	66	71
Brompton Pulp & Paper, 8% Pfd.	100	102
Brown Corpn., 7% Pfd.	104	None Off.
Champion Fibre, 7% Pfd.	108	110
Diem & Wing, 7% Cum. Pfd.	92	97
Eastern Mfg. Co., 1st Pfd.	58	61
Great Northern Paper, Com.	87	91
Hammermill Paper, 7% Pfd.	108	110
Hinde & Dauch, Com.	135	None Off.
Hinde & Dauch, 6% Pfd.	102	None Off.
Holyoke Card & Paper	160	None Off.
Marathon Paper Mills, Com.	125	...
Midwest Box Co., 8% Pfd.	98	102
Midwest Box Co., 6% Pfd.	95	99
Louis De Jonge Co., 7% Pfd.	94	97
Oxford Papers, Com.	175	185
Oxford Paper Co., Pfd.	109	111
Penobscot Chemical Fibre, Com.	70	80
Richardson Co., Com.	180	200
Rubberoid	120	130
Sabin Robbins Paper Co., 7% Pfd.	105	110
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	108½	110½
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper Company	58	63
West Virginia Pulp & Paper, Pfd.	102	105
Whittaker Paper, 7% Cum. Pfd.	105	None Off.

Paper Mulch Tests Favorable

Paper of the type used as a mulch in pineapple production in Hawaii has been found to be applicable also to a wide variety of crop plants in the eastern United States, according to Dr. L. H. Fline, psyiologist of the United States Department of Agriculture, who has recently completed four years' study of the possibilities of paper mulch and its effect on plant growth. Increased yield and growth have been secured by the use of impervious-paper mulch with such common garden crops as corn, beets, carrots, green beans, squashes, and others. In many instances the yield was from 1½ to 3 times as great as from unmulched crops.

The results of the experimental work are presented in Technical Bulletin 75-T, "Crop-Plant Stimulation with Paper Mulch," just published by the department. On the basis of the plot tests thus far made, the use of paper mulch, says Doctor Flint, in addition to increasing yields, eliminates all weeding between rows, facilitates weeding between plants in the row, and does away with the necessity for cultivation. In certain crops further advantages reported are increased germination which results in greater yields, a marked hastening of maturity, and a superior crop product in point of size, quality, and cleanliness.

The type of paper used in these trials—the heavy, asphalt-saturated and coated thermogen—was especially designed to withstand the weathering of the three to five years' duration of the pine apple plantation. It seems, possible, says Doctor Flint, that a less durable paper may be cheaper and as satisfactory over a short period. The extent to which paper mulch will find a place in gardening and agriculture can be determined, he says, only through wide individual experimentations. The practical use of paper mulch will depend largely on its economy as affected by the labor requirements, the markets, the particular crops concerned, and climatic conditions.

Various mulching papers are being studied by the department at the Arlington Experiment Farm and elsewhere to find a cheaper paper that will be satisfactory under varied soil and seasonal conditions.

A copy of the bulletin may be obtained by writing to the United States Department of Agriculture, Washington, D. C.